Life in the Country Railroad Cars.

"No man in the steamboat or railroad cars had the slightest appearance of travelling for pleasure's sake."—*Grattan's Civilized America.*

ND no one can be found who does not acknowledge the benefits and conveniences of railroads, which are spread like a net over so vast an extent of our country, and which convey us in twenty-four hours literally from one climate to another. There is, however, a growing notion that railway directors are far from consulting the interests they represent, in such a manner as to make the most for the stockholders, and at the same time to make the traveller the most comfortable. It may be set down now as a fixed fact, that *nobody ventures on a journey of any length, except in summer, if he can avoid it.* It is considered a positive nuisance to travel, by the great majority of persons who have a good home. Now, we say, that if this could be converted into a positive pleasure, the number who travel would be so greatly increased that a large part of the present financial difficulties of the roads would vanish. How to do this is the question.

Let us see. A journey from New York or Philadelphia to Chicago is to be endured: the distance is, say 850 miles, more or less, and two nights are to be consumed,—or we must lie by and lose that much time. Most people make up their minds to get through with it; all may be said to endure at least one night of travel in going or returning. What do they see, and how are they treated?

A couch car is provided at night on some of the routes of which we shall speak further; many who have paid for this indulgence cheerfully, find it too noisome for repetition, and if it were entirely desirable, there is not room enough for all. Those who remain in their seats are subjected to the presence all night of dirty passengers and their children; to the admission at every station of way passengers; to the spitting of Americans; to the overheating of the stove; to the imperfect or excessive ventilation; to being waked many times to "show your ticket," and that generally just as you have succeeded with difficulty in composing yourself. There are other causes of personal inconvenience; but let us ask, Why, while we are being whirled at this rapidly convenient gait, we should be compelled to suffer an amount of inconvenience and danger to health that our domestic animals, if long exposed to, would die under? here we allude to the heat and ventilation. A man or boy, who knows no more of thermometrical variations than he does of the belt of Saturn, is employed by the month to "make the fires in the cars,"—and generally, we must say, he earns his money by attentively piling in wood whenever the stove is empty; but he makes no difference between a warm and a cold night, a moderately cool or a hot day;—how should he know? the conductor is often a perfectly indifferent passenger, who amuses himself, between his frequent demand for tickets, with the travelling post-master, in the smoking-car, (advertised, but not always to be found—and when found, too often disgracefully dirty), or nods at his post in a small room now often provided for that purpose. So the

passengers are allowed to take care of themselves, the fireman only appearing at intervals sufficiently distinct to keep a furious fire ; or, if not watched, he lets it go entirely out.

The infirm passenger, or the delicate lady, who has been accustomed to comfort at home, consult their feelings by taking such seats as they consider to be most desirable, securing, if not too late, a window of their own. An emigrant woman who can afford to pay the full price, seats herself, with three or four fledglings not in the best trim, before our travellers, or mayhap along side. Soon at a way station, a countryman, with boots muddied to the very knees, brushes by,—and half a dozen local people who are going to the next station, redolent of tobacco and mud, hoist or lower windows before and behind you, and if you remonstrate declare their *right* to do as they please. Thus you are roasted at one moment and frozen at the next ; you have no control whatever of the ventilation of a seat that you have paid for all that was asked. The reader who has travelled for two or three successive nights will add a dozen more annoyances, such as the mud into which you are sometimes landed ; the very shocking meals you are compelled to partake of or starve ; the black coal dust that penetrates every portion of your person and in half an hour defiles you all over ; the dust (less annoying however in winter than in summer), and not least, the ever-recurring ticket-seer.

Now all this is wrong ; nearly everything we have named can be remedied by a very simple process ; the ticket-taker shall never intrude upon you ; the countryman, returning from selling veal at the town you stop at, shall not intrude himself on the seat of the through passenger or delicate lady ; none but yourself or your chosen companions shall let down a window on your neck ; no dirty boots shall be admitted to rub your delicate dress ; no man redolent of a bar-room shall snore in your ear, and you shall have a temperature so equable that even your favorite horse might endure a night in it. Shall we go on any longer without attempting an improvement ? shall thousands nightly run the risk of consumption and pneumonia, or shall we be comfortable, and decrease the amount of the bills of mortality ? Let us see.

The couch-car is a step in advancing comfort, but it is open to serious objection, the first of which is the ventilation ; the persons near the door, or ventilator, get too much of the outward air, while those beyond get too little. The space is cramped, the bed hard, or otherwise uncomfortable, and the pounding you get is multiplied by the increase of surface exposed to it while in a recumbent posture ; and at all events you will find plenty in the morning who have not "slept a wink." They will also soon be infested with insects. The inventors, who are allowed to run these cars at their own cost and risk, and charge half a dollar for the night, do all in their power to make the best of it, but it is an imperfect substitute for the poor benches ; we want and must have a better.

The French Coupé, now in use all over Europe, is what is wanted. It is a single room with four seats, a door on each side, which may be hired for the trip by one, two, three, or four individuals, for a small charge additional to the regular ticket. The seats are all capitally stuffed, with a projection from the back to lean the head on ; and this is a most comfortable mode of sleeping ; at your feet is a copper tube of sufficient size, pushed in from the outside, and filled when requested with hot water. Here you may really

rest for days and nights in succession, free from every annoyance we have named, regulating your own ventilation, eating your own provision, drinking your own wine, or milk, or cream, and conversing with those with whom you have planned your journey, or have invited from the cars to share your luxury and comfort.

Is it not astonishing that this convenience has to be named, after railways have been so long an institution among us? We are confident that the couch-car inventors would make double the money they now do, with half the trouble, by introducing the Coupé; and we appeal to the directors of our respectable routes to make one effort more to accommodate the sick, the delicate, the fastidious, and the old. Their profits are greatly concerned in this matter, and those who leave the comforts of home will travel thrice where they now go but once, and be thankful for an introduction to a new branch, if we may so call it, of "rural art."

Knowledge is "slow to travel," but no people on the earth are more sure to carry out a good plan than our own, when once it is shown to be valuable. We look upon the present system of travelling (next to the peculation of public plunderers, and the foolish telegraphic matter* of our daily press, which doses us daily with murders and runaway wives), as one of the greatest and yet most easily corrected evils existing in "free America." We have got to be so entirely "free," that every fellow-traveller may dash cold air on you as often as he pleases; the next step must be a reform, or he will apply cold water (instead of tobacco juice) in the same manner.

THE USEFUL AND THE BEAUTIFUL, IN GARDENING.

BY THE REV. A. D. GRIDLEY, CLINTON, NEW YORK.

It is not always easy rightly to adjust the claims of use and beauty. Tastes differ, and circumstances alter cases. Most men, however, are utilitarian in their views and feelings. Must we not eat and drink and sleep, they inquire, and can anything be better than stocks and mortgages, and instruments that are sure to pay? This is the governing principle. This speeds the plough, drives railway-trains, makes steamboat paddles revolve, the looms of factories rattle, and is the grand motor of that mighty and universal machine which men call "business." It is to gain physical enjoyment and material prosperity.

The same principle steals into our gardens. We plant and prune and water and weed, chiefly with an eye on the market. Beets and onions and strawberries and radishes fetch so much solid cash; and peas, peaches, pumpkins, pears, cabbages, grapes and squashes command so much. They are all likewise good to eat. Out with the useless flowers! They cumber the ground; and the time wasted in cultivating and admiring them might be spent in raising fruits and vegetables. Throw them over the fence! These amateurs, who give so much of their land and of their thoughts to fancy gardening, are visionary characters, who don't know what is really worth having, and are seen to come to want in the end.

Has not the reader heard words like these? The grounds of my friend

* A would-be Sydney Smith says, with some terseness, that "we know everything in America before it happens, and when it happens *it ain't true!*"

are about equally divided between the useful and ornamental. His lawn contains fine specimens of the Norway Spruce, Hemlock, European Linden, Larch, Dutch Elm, and other trees on which the eye of cultivated taste always loves to repose; and yet, we have heard many men wonder why that lawn was not planted with cherry-trees, pear-trees, plum-trees, and other useful things. One man, in walking through it, paused by a group of Altheas, Euonymus and flowering Hawthorns, and asked what sort of fruit these bushes bore; and learning that they were ornamental shrubs, his countenance fell, and he could not repress his amazement and disgust. When he was taken to the rear of the premises, and shown the fruit trees and vegetables, he began to breathe more freely. His eyes brightened over the rows of carrots, and early potatoes, and he could not help saying, as he rubbed his hands together, "Now this looks like living; here is something to keep one from starving."

So much for a specimen. Now we pity, more than we despise, this material spirit. It robs its possessors of high enjoyment. They ought to know that money-making and physical gratification are not the chief end of man. Is a tree worth nothing save for bearing fruit or making lumber? A stream, except for turning a wheel? A cloud, save as it waters one's potato-patch? A flower, save as it belongs to a pumpkin-vine? If the æsthetic part of our nature is not to be gratified, why has God endowed us with it, and why has He adapted the world we live in to this part of our constitution? Alas for the man who cannot see the beautiful side of nature, or who disparages those who strive to do so!

> "A river or a sea,
> Is to him a dish of tea,
> And a kingdom, bread and butter."

Apply this thought to the pursuits of horticulture. We would not speak lightly of gardening as carried on for pecuniary profit. If it were possible, we would deter no one from devoting a suitable portion of his ground to fruits and vegetables. Our bodies must be fed, as well as our tastes gratified. And, moreover, one finds greater enjoyment in the beautiful itself, when the useful also is allowed a proper share of his attention. A well arranged garden will always show a due regard to each. What that due estimate is, it may not be easy to determine with great exactness. It will vary with each person's means, and the size of his premises. Nor can we always draw a distinct line between the useful and the ornamental. In fruit culture, for instance, there is an incidental appeal to the sense of beauty, as well as a direct one to that of pecuniary profit; strawberries, cherries, apples, pears, grapes—do not these please the eye, as well as tickle the palate, and fill the pocket? Few persons, it may be, cultivate fruit for its beauty; yet we would by no means see it excluded from our grounds, nor would we fail to give the homely kitchen garden its due appreciation.

Having now guarded our orthodoxy, let us say a few heretical words. Fruit trees are well enough, and should be planted; but they are, after all, the least important part of an amateur's plantation. How long are many of them in coming into bearing, and for how small a portion of the year, at best, do they afford gratification! To what innumerable ills are they subject! Slugs, aphides, borers, worms, curculios, caterpillars, mildew, sap-blight, black-knot, cracking of the fruit, bursting of the bark, etc., etc.—what an array of obstacles, what a multitude of disappointments! And if

it so happens, that after one has spent many years in planting and nursing, his patient labor is about being rewarded by a specimen of new and choice fruit, how often do thieves snatch the dainty morsel from his very lips.

But suppose (and the supposition is well warranted), that when we planted our fruit garden, and arranged our vegetable quarters in the best manner, we at the same time laid off a suitable portion of ground for ornamental purposes. It was graded; roads and walks were laid out through it; it was sown with a mixture of veritable grains, and in all respects was moulded into a complete lawn. A variety of ornamental trees were set out upon it, according to the canons of correct taste. Being well cared for, they grew luxuriantly from year to year, and are now large, symmetrical trees. The velvet grass has afforded us annually a summer-long feast of pleasure. The elm has assumed that majestic, yet graceful post, which makes it the "Queen Elizabeth" among trees. The magnolias and tulip-trees, with their broad, glossy leaves have diffused the air of milder climates through our northern garden. Linden, oak, chestnut, maple, beech, birch and ash, both natives and foreigners, have grown side by side, and mingled their spray in loving companionship. Here, too, we planted evergreens of various forms and shades of color; and not only the robust denizens of our American hills, but many from across the water, Scotland and Austria sent us pines, and so did Switzerland and the Isle of Corsica, and Siberia and the Bhotan mountains. Norway contributed the noblest of all the spruces; the Altai mountains a Fir, Siberia and China sent Arbor Vitæs, Sweden a Juniper, and England a Yew. Other nations sent us representatives, which have not yet become so well domesticated as to call for a mention of their names.

And here we might adduce the case of our friend, Professor ——, who is infatuated with the same disregard of pecuniary profit in his gardening. On one side of his lawn the ground falls off into a ravine, which winds down into a wild gulf or chasm, where a dashing stream and scattered rocks and overhanging boughs diffuse the charm of picturesque beauty. The sunny slopes of this ravine might have grown excellent grapes, pears, berries, currants, and the like, but he has devoted the ground to less profitable purposes. He has laid out gravelled walks, winding through its centre and along its sides. Here and there he has made patches for flowers. All the curious trees, shrubs, vines and plants that he could get, far and near, are gathered into this spot. He has traversed the surrounding forests and swamps, and woo'd away their choicest treasures to set them here. He has taken advantage of a little spring which trickles out from the side of this ravine, and has led its waters along by the roots of certain shrubs and plants which love such conditions. Now this ravine does not yield him a mouthful to eat or to sell, yet he and his family think it is the best part of their garden, and his visitors (whose eyes are not in their stomachs or their pockets), think so too.

But to return. We spoke of some of the discouragements attending fruit culture. But the curculio, sap-blight, slug, borer, and black-knot, do not infest our ornamental grounds. We have not been compelled to wait many years before our trees and plants afforded us gratification: even in the second summer after planting, many of them assumed those peculiarities of form and foliage which recommend them to the eye of taste. Nor is it a slight consideration that our evergreen trees and shrubs are nearly as beau-

tiful in winter as in summer, and so make our grounds cheerful and warm throughout the year. And who ever heard of thieves plundering ornamental trees and plants? Their taste runs in the line of peaches, pears, and melons. For many years have we planted lindens, magnolias, junipers, Japan lilies and geraniums, without any fear that prowling ragamuffins would break through our hedges and steal them.

And who can estimate the value of the associations connected with such trees and plants! These associations whisper in every leaf, they exhale from every flower, they nestle in the shady branches above our heads, they rise up from the walks beneath our feet. As we traverse our shaded avenues, other men and other times surround us. The patriarch meets us under "the dark, gnarled, centennial tree" he so much loved. Sages discourse philosophy under the revolving shade of our plane-trees. Orators and poets sweep past us in their robes, meditating themes of eloquence and song. The great and good, the pure and the beautiful of every age and clime, are here, and repeat before us the words and actions of their daily lives. We hear "the voice of the Lord walking in the garden," reminding us of his continual presence and fatherly care. We find a new charm added to domestic and social life, a charm which grows stronger with every passing year, and makes home the full realization of its sacred name.

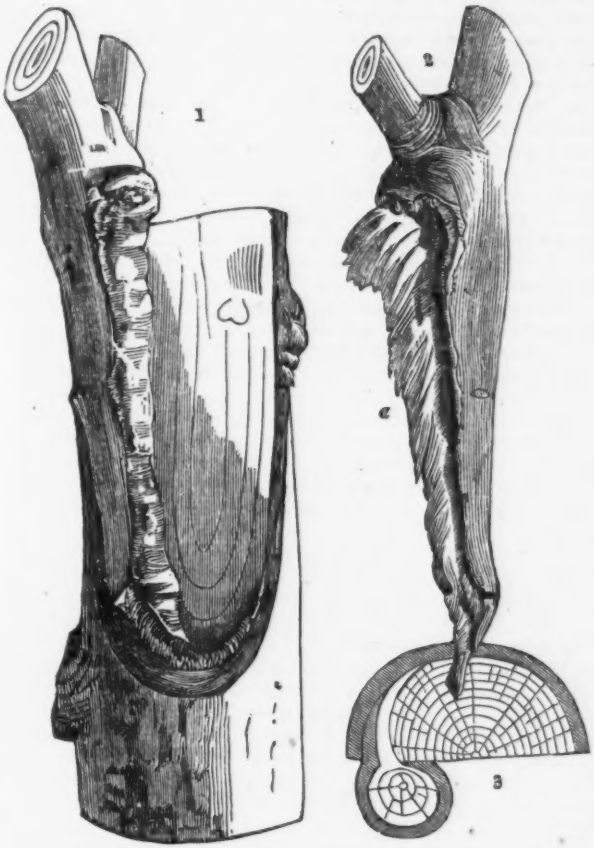
But we need not pursue this thought further. There is little danger that ornamental gardening will anywhere lead to the neglect of gardening for profit. Man loves to make money and to eat, too well, for one to indulge fears on that score. And we sincerely hope that the practical will maintain its due share of the garden. But we also hope that ornamental planters will never apologise for their tastes, that the pleasure-grounds of our country will become larger instead of smaller, and that those men who now see no value in anything which does not bear fruit, may soon come to a better mind.

BAD GRAFTING.—HOW WOOD IS FORMED.

While examining lately some examples of bad grafting, we met with the following remarkable case, which will be regarded with no small interest by those who are desirous of learning how wood is really formed. A small scion of an apple had been whip-grafted upon one side of the cut of a much larger stock, as is shown in the annexed figure, 1. It had apparently formed as strong a union as is usually found in such cases, but upon applying a little lateral pressure the scion came away, as at 2, bringing with it a considerable quantity of young wood, 2 *a*. Upon a more minute examination it was found that this wood had been insinuated between the bark and wood of the stock as at 3, the wood of the scion having remained quite independent of that upon which it was moulded; it had moreover divided into very fine descending fibres, the broken points of which are shown at 2 *a*. In other words, the scion had formed a woody sheath of its own, which covered over the wood of the stock and was independent of it.

How is this to be explained? Those who believe with Gaudichaud, Dupetit Thouars, and others of their school, will accept the specimen as a new proof of the accuracy of their views, that wood really descends from above in the form of fully organized tissue. On the other hand, those who adopt

the more common opinion that wood is organized where it is found by organizable matter passing downwards, will see here a confirmation of their theory; while the physiologists who maintain that wood is a mere secretion from the surface of old bark or old wood will, it is to be hoped, admit that such a specimen as this is inexplicable upon their interpretation. It is ob-



vious, indeed, that the new wood 2 *a* is really derived in either a solid or liquid form from the two branches at 2.

This is much the same as the case of a Willow which formed a sheath of wood several feet long over dead wood, and beneath dead bark, where any superficial deposit was obviously impossible. Or it may perhaps be better compared to the celebrated example of a Rose Acacia mentioned by the late Prof. Achille Richard. The Rose Acacia had been grafted on the common

Pseudacacia. The stock had died; but the scion had continued to grow, and had emitted from its base a kind of plaster composed of very distinct fibres, which surrounded the extremity of the stock to some distance, forming a sheath, and thus showed incontestably that wood descends from the base of a scion to overlay the stock.

That being demonstrated, it becomes the more difficult to understand how it is that although the wood of a stock is derived from the scion, yet the branches which sprout from that wood are not like those of the scion but of the stock. In other words A (the scion) under its new condition of life does not produce A, but B (the stock).

The true explanation of this puzzling phenomenon is, doubtless, that in our common trees there are two distinct systems of organization, simultaneous in their appearance, coëxistent and coëval, but independent; the one longitudinal, which is what passes downwards, and the other horizontal; that the first is incapable of producing new roots, and is to be regarded as a mere provision for conveying sap, and for giving strength to a tree; that the latter alone has the power of furnishing new shoots. This latter, called the medullary system, is perpetually growing outwards and fitting on its myriads of extremities to the surface of the wood beneath the bark; so that when a branch is produced it necessarily comes from the horizontal system, derived in the beginning from the stock and not interfered with by the scion.

This is the view that was many years since taken by the writer of the present notice, and we are not aware of any attempt having been made to show its inaccuracy. Dr. Harvey, in his "Trees and their Nature (noticed at p. 132 of the present volume) does not advert to it; or if he does we have failed to find the place, for which we trust to be excused, seeing that life is not long enough to permit the use of books without an index.

It is not for the sake of puzzling physiological heretics, or for the sake of the orthodox that this question has been thus revived. The case before us has been fixed to our pages for the sake of the ignorant, or the ill-informed, who have not yet discovered that to remove the branches of a tree is to paralyze its wood-producing powers; and who sally forth in mid-winter, or indeed in mid-spring, or whenever they happen to think about it, armed with saw and axe, and good brown bills, for the purpose of making a raid upon the plantations under their care. Incredible as it may seem, there are plenty of woodmen who firmly believe that few branches will furnish as much new timber as many. Let us hope that they will reflect upon our apple-tree, repent of their foolish courses, and resolve in future to follow a wiser and better practice.—*From the Gardeners' Chronicle.*

HARTFORD PROLIFIC GRAPE.*

"Raised by Mr. Steel, of Hartford, Connecticut: Hardy, vigorous and productive." We refer to one of our best authorities, our well-informed friend Charles Downing, Esq. We agree with him in all points about this grape, excepting the thickness of skin and toughness of pulp. Either cultivation has improved the fruit, or it was better the past year than at the time

* See Frontispiece.

when Mr. Downing described it. We found it a very fine berry with a little acidity, but soft, and with a remarkably thin skin, which yields easily its deep coloring matter, and must be, on that account suited, to red wine-making. We have no doubt of this, or its very acidity (of which it has little indeed) would be a quality as a *bottom* for a good wine.

Is it not time that we do away with the spurious drugs imported and carefully labelled, and, of course, preferred by some slaves of foreign products and manners, by substituting to these poisonous substances our own pure products of the grape? We have tasted repeatedly some South Carolina wines, and have found the wine made of the Lenoir equal to very good Claret, which it resembles altogether in "*acobit.*" We have no doubt either the Clinton or Beatty would be fully as good for Claret wine-making. The Isabella wine, made by our friend Mr. Caradeuc, South Carolina, has altogether a Burgundy taste and flavor, while his *Pauline* ranks between this and the Claret, and is a delicious wine. Those who have tasted the *still Catawba*, of Georgia, will no longer doubt its capability of competing with good Hock or Rhine wines; and when we consider that the first is made almost under our immediate control, and that we have nothing but *faith* and *reliance upon foreign skill* to sustain the other, we shall perhaps come to the conclusion that it is safer, although not so *stylish*, to drink our own wines, than to pay ridiculous prices for Champagne made in all parts of the world, except in *Champagne;* for Logwood, Sugar of Lead, Huckleberry juice, and two or three score more *melanges* sold under the name of cheap *table wines*,—cheap indeed! for their manufacturing costs almost nothing. Such wines the writer of this note has seen condemned by the hundred barrels in the *Entrépôt of Barcy*, and the contents poured into the Seine, to the great annoyance of the fish, and to the immense benefit of the community. But such stuff is good enough for America, and sells here as almost every foreign *humbug* does under "*a name* upon a gilt label," and nicely corked and warranted. By the by, Mr. Editor, let me ask you, "*Where* are the responsible parts of all those and other *warranters?*

What is the means to make a spurious *warranted* article pay for its sophistication? a law suit? that would be mere folly; retaliation? that is unmanly, unchristian. The only safe way to guard against such barefaced impositions is, *abstinence*, and substitution of a better and more genuine article for articles of "doubtful import." Let us remember the good Persian maxim "when you *doubt*, abstain," and, let us apply it, not only as it was meant, to moral obligations and duties, but also to our *diet*, that fruitful source of health and diseases.—L. E. Berckmans.

A FEW CASUAL REMARKS ON THE IMPORTANCE OF PROPAGATING FLOWERS FROM WELL-SAVED SEED.

BY WILLIAM CREED, ROCHESTER, N. Y.

Now that the season is rapidly approaching when all who are interested in Floriculture will be contemplating what selections shall be made for another year's operations, we take this opportunity of urging upon the inexperienced the importance of propagating flowers from well-saved seed,

and upon which alone rests the success of the propagator. By this expression, however, we must not be understood to mean *well-matured* seed ; but, on the other hand, the adoption of the *minutiæ* of details (in its saving) necessary to maintain the present standard of excellence discernible in some of our public exhibitions, as well as private collections ; and yet, perhaps, not one out of twenty of those even who pride themselves in producing good flowers, and, certainly, not one out of a hundred of the commonality of growers, ever give that attention to the subject requisite to produce satisfactory results.

Take, for instance, that familiar favorite, the Double Balsam, or its rival, the Balsamine, with its rose-like petals and diversified blossom tints ;—what an improvement is it upon the Lady Slipper !—the former may well be styled the *chef d'œuvre* of its species in cultivation, while from the latter may be traced the origin of its present excellence, and this superiority of the Balsamine happening simply through a perseverance which apparently but few take any part. The Balsam, &c., like many other specimens of the floral world, in order to prevent its running back to its primitive state, requires the seed to be ripened only on the main stem,—and all the seed-pods on side branches, as quick as they begin to set, should be picked off ; if this has not been done, the seed when propagated will bear unmistakable marks of a degenerating influence working upon it. All plants producing single or semi-double flowers should be uprooted as soon as detected.

We next bring to notice another well-merited and long-tried annual, the Ten-week Stock. This is one also requiring attention while saving seed. Depending as we do upon the single specimens of this flower for its seed, certain rules must be observed to ensure any gratifying results. For example we may say, that if the seed sown this season should prove to have an *excess* of single flowers, *throw them away ;* but if the double flowers predominate, it may be considered a good "strain," and worthy of the following attention, viz. :—as soon as half a dozen pods have set on the centre stem, the *flowers above the pods* should be destroyed and some of the side branches should meet with the same treatment, but allowing only two or three pods to set and no more shoots to grow. Some growers, however, confine the pods to the centre stem only, and cut the side branches off close ; but experience teaches us that a few pods may be ripened satisfactorily on the strongest of the side shoots, the entire vigor of the plant being confined to a few pods of seed. With respect to color, that is a matter of choice from which the experimentist will make his own selections.

The Asters should not be overlooked ; their multiplicity of colors, as well as the great improvement accomplished by many distinguished growers, make them indispensable annual visitors. The French Pyramidal Aster, though not equal in beauty to some other varieties, nevertheless may be mentioned as being one suited to most growers, on the supposition, however, that the situation as well as soil, like those above mentioned, should be suitable to its growth and the maturity of its seed. All indifferent plants should be pulled up as early as the blossoms are seen, and none but the perfect and earliest flowers allowed to mature their seed. This variety of Aster being a profuse bloomer, all the blossoms of a secondary character on good plants should be watched and gathered from time to time, and which will prove a continual resource, when in season, for securing *bouquets* of an attractive nature, and which may be freely distributed to the admirers of

this flower, and at the same time prove a benefit to the plant in influencing and maturing the seed.

We now reluctantly conclude our remarks; undoubtedly we are trespassing beyond the boundary mark allotted to such communications in the *Horticulturist*,—and yet, but few of the most familiar annuals have been enumerated, to serve as an illustration of some important facts which should not be overlooked by any one engaged in Floriculture, and, it is hoped, will tend to promote a more universal effort in this direction, and equal to the requirements of a progressive age. There is scarcely a flower discovered in its original state, but that it has been susceptible of improvement in some desirable point. This cannot, however, be attained without effort; let us awaken ourselves, and follow the French, English, Germans and Prussians, who it must be admitted carry off the palm in this matter, and who apparently possess unusual elements of character to prosecute it perseveringly and successfully, and upon some of whom we almost entirely depend for our supplies of reliable seeds.

Those who have hitherto considered seed-saving hidden, as it were, in a labyrinth of mystery, so far as producing an unbroken succession of flowers of the highest character is concerned, should "try, try again," by securing in the first instance the very best seed from the most reliable sources, and then adopt the care in experimenting necessary to the accomplishment of the desired ends. The subject is full of interest, and cases may be multiplied, almost without number, where a similar *minuteness* of treatment is required to attain satisfactory results, and which perhaps I may refer to at some future period.

ADDRESS OF JOHN JAY, ESQ.

(Continued from page 185.)

"The area of our territory, which is about three millions of square miles, will soon be treated of by Mr. Poor, the Chairman of the section on Topography. Without proposing to trench upon the duties of that section, or to do more than refer to the prominent features of our physical geography, I may remark, that the calculations of the Topographical Bureau at Washington show the existence of an interior valley drained by the waters of the Mississippi and its tributaries, nearly as large as the Atlantic and Pacific slopes together, and one-third larger than the whole domain of the Republic on the adoption of the Constitution.

"Over two-fifths of the national territory is drained by the Mississippi and its tributaries, and more than one-half is embraced in what may be called its middle region. One-fourth of its total area belongs to the Pacific, one-sixth to the Atlantic proper, one twenty-sixth to the Lakes, one-ninth to the Gulf, or one-third to the Atlantic, including the Lakes and Gulf.

"Of the entire area of the United States only about one-thirteenth part is improved; about one-eighth more is occupied but not improved. The entire number of acres occupied is some three hundred millions, (293,560,614), or nearly one-sixth part of the national domain.

"Between the United States and France,—although the lands in both are generally held in fee simple, or nearly so,—a difference of similar importance is found in the average size of the farms.

"Here the average is from 150 to 200 acres; there the average, although not so small as has been frequently represented, is probably but six or eight acres among four millions of the smaller proprietors, or about twelve acres to each farm throughout the entire empire; and these are frequently encumbered by ancestral mortgages.

"This table shows us that in 1850 the four largest staples of our country, ranking them according to their annual value, were—

Indian Corn, - - - - -	$296,000,000
Hay, - - - - -	138,000,000
Wheat, - - - - -	90,000,000
Cotton, - - - - -	78,000,000"

Mr. Jay examines the question whether Indian Corn is strictly a plant of the New World, and arrives at the conclusion that it is so, and adds:

"Indian Corn is preëminently the great staple of the country, surpassing all others in the area of its cultivation, and in the amount and value of the crop, yielding, in 1850, within a fraction of three hundred millions of dollars, being all but equal to the united values of the three next staples in their order,—wheat, hay and cotton; and as Indian Corn is not only the most important, but the most universal crop, extending from the northern to the southern limit of the United States, its cultivation would seem to afford a better test than that offered by any other, of the progress of American tillage.

"In the production of Indian Corn no State has retrograded. The crop in 1840; was nearly four hundred millions of bushels; in 1850 it was within a fraction of six hundred millions, being a gain of 56 per cent., while the increase of the population, during the same time, was only 35 per cent. The estimated crop for 1855, according to the Secretary of the Treasury, was between seven and eight hundred millions, or nearly double the crop for 1840 and the crop for 1856 was estimated at fully eight hundred millions of bushels.

"Chicago, which, twenty years ago, imported flour and meal for her own consumption, has established brands of flour which are now recognized throughout Europe; and she is shown by recent statistics to be the largest primary grain depot in the world, rivaling Odessa and Galatz, Dantzig and St. Petersburg, while she leads all other ports of the world also in the quantity and quality of her exports.

"The population of Chicago, which, in 1850, was 29,000, in 1856 had increased to 104,000.

"The census of New York for 1855 shows that her wheat crop, once so famous, is actually decreasing, owing, as is supposed, in part to the ravages of insects, and in part to diseases of the plant, assisted, perhaps, by a gradual deterioration of the soil.

"In no country can a bread crop be raised with less labor than Indian Corn generally throughout the United States, and it has been estimated that the same amount of toil of a man and horse which will raise a bushel of wheat in England, will raise ten bushels of corn on favorable soil in this country.

"There is about one horse to every five persons in the United States. The 500,000 asses and mules returned are almost entirely confined to the Southern States, where the climate is regarded as better adapted to this animal than the horse.

"The total value of live stock in the United States, in 1855, was about five hundred and fifty millions, and the value of animals slaughtered about one hundred and twelve millions.

"*The grain, root, and other crops, from* 1840 *to* 1850 :

"Rye had *decreased* from eighteen millions of bushels to fourteen millions.

"Oats had increased from one hundred and twenty-three millions to one hundred and forty-six millions.

"Potatoes (Irish and sweet) had decreased from one hundred and eight millions of bushels to one hundred and four millions.

"Cotton had increased from eight hundred millions of pounds in 1840, to nine hundred and eighty millions in 1850, and to one billion and eighty-eight millions in 1855.

"Rice from eighty millions of pounds to two hundred and fifteen millions ; while

"Tobacco has *decreased* from two hundred and nineteen millions of pounds to one hundred and ninety-nine millions.

"Wool had increased from thirty millions of pounds to fifty-two millions.

"Silk Cocoons had *decreased* from sixty-one thousand pounds to ten thousand.

"Wine had increased from one hundred and twenty-four thousand gallons to two hundred and twenty-one thousand.

"One point that should not be lost sight of in a consideration of the advantages attendant upon agricultural operations is, the safety of the capital invested, compared with the chances of loss attendant upon commercial or manufacturing investments. The Hon. Emory Washburne, of Massachusetts, in an address before the Worcester Agricultural Society, in 1854, stated some facts bearing upon the question, which a statistical inquiry, if one could be accurately made, into the successes or reverses of the various pursuits in which our countrymen engage, might probably multiply to an extent that, without proof, would hardly be credited. Of the merchants in Boston doing business at a certain wharf during forty years, only six became independent, the remainder failed or died destitute of property. Of one thousand merchants, having accounts at a principal Boston bank during the same year, only six had become independent.

"Another investigation led to the startling result, that of every hundred traders, but seven succeed in acquiring wealth. From such reverses the farmer is comparatively free. Of eleven hundred and twelve bankrupts who took the benefit of the bankrupt law in Massachusetts, only fourteen were farmers ; and of twenty-five hundred and fifty bankrupts in New York, only forty-six were farmers. Less than two per cent. of the bankrupts belonged to the agricultural population, although that population so largely exceeds all the rest of the people, however classified.

"The large harvests in our young States ought not to blind us to the fact, that the fertility of those parts of the older States which once yielded as abundantly, seems to have been steadily diminishing for a long course of years.

"This fact is exhibited, not only in the wheat lands of New England, and other parts of the North, but on the tobacco fields of Virginia, and the cotton plantations of the South ; and the subject undoubtedly deserves the most careful investigation.

"The deterioration of our soil is doubtless owing, in a great part, to a

careless system of cultivation, common to new countries where land is cheap, and labor is dear, and the soil is naturally productive, and the individual cultivator is intent upon large immediate returns, thoughtless of the permanent fertility of his farm, careless of the interests of his successors, and regardless of the prosperity of the community at large. It has been suggested that every agricultural people run the same race of exhausting culture, shallow ploughing, a continuous course of impoverishing, with neither rest, rotation, nor sufficient manure; and that necessity alone can convince them that duty and interest both demand that land shall be so tilled as to increase rather than diminish in fruitfulness. Such a necessity in the lessening crops of the Atlantic States, and westward emigration in search of more fertile territories, already presents itself to the intelligent American agriculturist: and the reasonable belief that the same exhaustive system will soon begin to tell upon the most productive regions of the West, has led to the discussion in agricultural newspapers, and at farmers' clubs, of the philosophical causes of the exhaustion, and the best means of renovation.

"In some sections of the country efforts to restore exhausted lands have been attended with the most marked pecuniary success. Mr. Ruffin, of Virginia, estimates the increased value of reclaimed lands in Eastern Virginia, by marling and liming, from 1838 to 1850, at some thirty millions of dollars.

"The committee on drainage, in their report to the State Agricultural Society of New York, in 1848, assert, that 'there is not one farm out of seventy-five in this State, but needs draining—much draining—to bring it into high cultivation. May we venture to say that every wheat field would produce a larger and finer crop if properly drained.'

"Yet another topic, closely connected with the interests of American agriculture, is the recent diminution of the proportion of the male population engaged in agricultural pursuits, as compared with the number engaged in commercial and other pursuits. * * * *

"There is reason for believing that the proportion of the population devoted to agricultural pursuits is decreasing: and it is important that the schedules of the next census should be drawn with reference to the determination of this point with entire accuracy, and should develop whatever facts may be essential to enable us to discover, and if possible to correct, the causes that may be diverting an undue proportion of American industry from the culture of the soil.

"The attractiveness of town and city life for the laboring classes may be lessened by a study of the tables of mortality, showing that the average duration of life is much larger in the rural districts.

"The feverish anxiety for rapid gains in mercantile pursuits may be advantageously checked, by statistics showing the uncertain gains of commercial speculations, and the certain profit of enlightened agricultural toil.

"After a survey of the area, the population, the products, and the statistics of our great American farm, of its home resources, its foreign markets, and its probable future, we close with the thought, that for the advancement of this great interest, which supplies millions with healthful and profitable employment, and other millions with their daily bread, canals and railroads intersect our continent, extending westward towards the far Pacific; ships whiten the ocean, and steam labors in a thousand forms. That

to supply its workmen with fitting implements, inventive genius is ever wakeful, and mechanical skill unceasingly active. That in their behalf chemistry, by the crucible and analysis, is extorting from nature her hidden secrets; and science, in all her forms, is lending her skilful aid to perfect, in this advanced and advancing age, the art that was born with the creation, in the garden that was given to man, to dress and to keep it.

"We close with the thought, suggestive of thankfulness and good will, that all these agencies are at work for the benefit of our universal brotherhood, to lighten the primeval curse, and to compel from our common mother, for the benefit of the children of a common Father, more varied and abundant harvests, with greater certainty and with lessened toil.

"Let us also reverently remember, gentlemen, in our study of the laws of political economy by the guiding light of statistics, that the truths which we seek to discover are a part of that universal law whose seat is the bosom of God, and whose voice is the harmony of the world.

"Nor let us ever forget, in the contemplation of our unparalleled blessings, that the happiness and prosperity of a nation depends infinitely less on their material wealth, than upon the observance of those great rights and duties which our fathers solemnly recognized when we took our place in the family of nations."

Here is food for thought; facts which no one can gainsay, and reflections which all, including the most learned statesmen, may study with advantage.

FRUIT IN FRANCE AND ENGLAND.

BY G. W. R., HARTFORD, CONN.

In the February number of the *Horticulturist*, a correspondent of the *Leader* mentions the extravagant price which was asked for some pears at Chevet's, in the Palais Royal, Paris. He says that Madame Chevet informed him that the price for the largest was only £25, or $125; quite modest. I think he must have been mistaken. On the 28th of November last, attracted by the fine display of fruit in the windows of Chevet, I stopped in and made many inquiries: there were very fine specimens of the Duchesse, of the Vicar, and many others which I did not recognize: those were selling at from one to two francs each. There was one specimen in the window, very showy and very large, weighing probably two pounds; this likely was the pear alluded to by your correspondent; the price was twenty-five francs, as I was told by the woman in attendance, and might have been misunderstood by him for twenty-five pounds; twenty-five francs was enough for it, at any rate. I gave one franc for a good specimen of the old Crassane, and found it a very good pear; at a restaurant, on another occasion, I gave a franc for two, rather smaller than the above.

Pears and apples were plenty in Paris; in the shop windows were some very fine specimens; there were a few apples at Chevet's of a golden color, large and ribbed, such as I never saw before. In the streets there was a great variety of inferior quality, trundled about in barrows or hand-carts, by women, which sold at from a few sous each to four or five francs a dozen.

A ride by the cars gave me a slight opportunity to see the environs of Paris; there were many curious and picturesque cottages to be seen, some

of them small, with little gardens filled with rock-work, piled together in a most grotesque manner, yes, in the most absurd manner, considering that the whole garden was often not thirty feet square. Arbors were often noticed, and vines and fruit trees were trained to the walls.

We saw many places where the grape was cultivated; they were planted in rows, perhaps two or three feet apart, and trained to slender sticks about four feet in height. Grapes were quite plenty in Paris, but I saw only one variety,—a light-colored and sweet grape, much resembling the Golden Chasselas, and cost about one franc a pound. Some beautiful specimens of preserved fruits were seen in a shop in the Rue St. Honore; the apricots especially beautiful.

The grape vines are not always treated as above, for at Clermont I saw one clambering in a most luxuriant manner,—that would equal any of our own,—over an apple and an elm tree, entirely innocent of the pruning-knife.

Pear trees were very numerous about Paris, and with apple-trees were often noticed in the route to Calais; some cherries, plums, and apricots, were seen near Versailles.

I don't know when I have been more pleased than with the little gardens of the old soldiers, at the Hotel des Invalides. Though not more than twelve by twenty feet, yet each one was enclosed by a low fence, had an arbor at one end, overrun by a grape vine, or some creeper, and in it was a seat with a small table, where the old veterans "made themselves comfortable." In the centre of most of the gardens was planted an apricot, cherry, or pear-tree, and in many of them a variety of roses or other plants, currants, gooseberries, &c.; some were very neatly kept, with narrow walks, edged with box, and were quite charming in appearance.

In London, pears were plenty, and apples also; in the shops, Duchesse and Vicars were most common, and were selling at three shillings and sixpence to four shillings a dozen—very fair specimens as to size and quality; large and smooth St. Germains were of the same price; in the streets less was asked, though they were smaller in size. The Vicars were raised in England,—many of them,—though the Duchesse and St. Germains came from France; the Vicars were much better in quality than any which I ever ate raised here; in fact I never ate so good raised in America; I have tasted better and larger Duchesses here, especially some raised by F. L. O., of Staten Island.

At Windsor, I bought some Beurré Ranz, a variety which I never knew to do well here, but which was raised in that vicinity. I brought home one very large and fine specimen, which was juicy, melting, and of very good, though not very high flavor.

Many orchards of pear-trees were seen i n England, especially about London; they were planted near together, and were trimmed up high, perhaps to allow of the cultivation of vegetables underneath.

It is difficult to persuade an Englishman that anything superior can be found out of England. "There are no apples in America equal to our apples," said a cockney on board ship," "and as for strawberries, why,"—turning up the nose most contemptuously—"you don't pretend that you have any strawberries in America that are as good or as abundant as ours." Though he heard of something which was done every summer in the strawberry business in the vicinity of Cincinnati, I don't suppose it had much effect upon him. The very embodiment of selfishness, sometimes, is an Englishman. But I refrain.

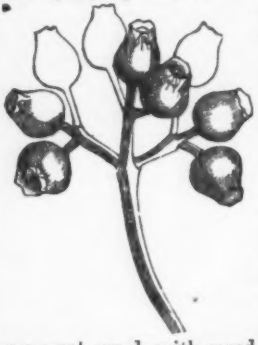
AGALMYLA STAMINEA.—(LONG-STAMENED AGALMYLA.)

THE large silver medal was awarded to Messrs. Veitch & Son, of Exeter, for a beautiful new Gesnerwort, named *Agalmyla staminea* (Fig. A),

Fig. A.

obtained rom Java, through their collector, Mr. Thomas Lobb. The plant exhibited was the first that had bloomed in this country; it was a stout, herbaceous, creeping-stemmed plant, with large elliptic leaves, from the

axil of which was produced a dense cluster of rich velvety crimson flowers, like those of some Æschynanthus. Though beautiful, even in the condition in which it was shown, it, however, conveyed no sufficient idea of what it may be expected to become when better grown; for, in a dried specimen from Java, which was also exhibited along with it, instead of one bunch of flowers on a branch, it had seven, clothing the shoot for about two feet with its gay blossoms. Being a plant of easy cultivation, it will no doubt become one of the gayest inhabitants of our stoves. With it was a branch of *Medinilla speciosa*, bearing a fine cluster of purplish red fruit, of which the accompanying wood cut will give some idea, and which are nearly as handsome as its semi-transparent pink flowers of summer. This is also a Java plant, whose broad concave fleshy leaves, large bunches of flowers in summer, and fruit in autumn, deservedly place it among stove plants of first rate character.—*Horticultural Society's Journal.*



[A colored portrait of the *Agalmyla staminea* is in the fifteenth volume of "Paxton's Flower Garden." The generic name is derived from *agalma*, an ornament, and *hule*, a forest, for it is a beautiful decoration of its native woods. It requires a moist, warm stove, with liberal watering and syringing during its period of growth. When at rest it must be kept nearly dry. A soil of two parts turfy peat, one part loam, and one part sand, with good drainage, suits it. It is propagated by cuttings planted in sand under a glass in heat.

Medinilla speciosa is beautifully represented in the "Botanical Magazine," t. 4321. As its name (showy) implies, it is one of the most beautiful of the genus. It produces a fine panicle of delicate rose-colored flowers, drooping gracefully from among rich green and ample foliage.]

THE AMERICAN POMOLOGICAL SOCIETY.

BY AN ORIGINAL MEMBER.

On the first of September, 1848, the convention of pomologists which eventually resulted in the organization of the American Pomological Society, was held in the city of Buffalo. Ten years having since elapsed, during which time important results have been achieved by the Society, a brief retrospect of its past labors, and a few suggestions relative to its future course, may not be mistimed.

Being from its inception deeply interested in the Society, I have been present at nearly all its meetings, and observed with attention the operation of the method of procedure which has been usually adhered to, with success. In the course of debate it occasionally happened that time was consumed upon matters of little moment; but I am of the opinion that upon no other plan could the efforts of the Society have been better directed, or more efficacious in extricating the science of pomology from the disorder and

confusion in which it was involved. Whether for the future that plan can be improved upon is a subject which I shall present for consideration.

During the past ten years the Society has accomplished much—perhaps more than any but its most sanguine members anticipated. It has catalogued nearly 1000 varieties of fruit, which are classified in the following manner.

Fruits recommended for general cultivation:

Apples, 36.	Pears, 41.	Peaches, 15.	Nectarines, 3.
Apricots, 3.	Plums, 14.	Cherries, 14.	Native grapes.
Foreign grapes.	Currants, 5.	Raspberries, 7.	Blackberries, 2.
Gooseberries.			

Pears for cultivation on quince stock, 25.

Recommended as promising well:

Apples, 12.	Pears, 41.	Peaches, 5.	Plums, 11.
Cherries, 9.	Native grapes, 4.	Currants, 3.	
Raspberries, 4.	Strawberries, 6.		

For special localities, &c.:

16 varieties of various fruits.

Rejected.

Apples, 126.	Pears, 351.	Apricots, 5.	Plums, 31.
Cherries, 32.	Grapes, 2.	Raspberries, 3.	Strawberries, 75.

The benefits conferred upon the fruit-growing community, and the amount of time, labor, and expense saved by this classification, are beyond calculation; in my own opinion the Society would have deserved well of its country, had it accomplished nothing beyond the condemnation of the 625 varieties contained in its list of rejected fruits. But it has done more: a vast number of synonyms and errors in nomenclature have been exposed and corrected; much valuable information respecting the culture, pruning, and training of the tree, and the preservation and ripening of fruit, has been elicited; and in the compilation of the State reports, a mass of matter has been collected, of interest to every pomologist.

We have seen what has been already done, let us now look forward to the future.

That the system heretofore pursued, of recommending fruits for general cultivation, has limits to its successful operation, is evident from the fact that comparatively few varieties are equally adapted to every part of our extensive territory. Members have at different times spoken of the disadvantages attending this practice; and at the last session a protest from southern Ohio was recorded against nine apples now upon the general list, as unsuited to that region. As that list is enlarged, the objections will of course become more frequent and forcible, for but a limited number of varieties are thoroughly tested in every State. These being exhausted, there are obvious reasons why imperfectly known sorts will fail to obtain a place on the list. It would indeed be improper and unjust that they should be placed there.

To show that I am not alone in the opinion that the time has arrived when we should make a change in our system, I need only refer to the resolution offered at the last session by Mr. Walker, the chairman of the general fruit

committee. Other members evinced a disposition to make alterations in the general list, which was very properly received with disfavor. Mr. Walker's motion I considered a step in the right direction, and regretted that it met with so little approbation. My own views are, in the main, consonant with his, and I will suggest a mode of procedure which I conceive would be productive of the best results.

Our general list is already sufficiently large for all practical purposes; let it stand as it is: we may occasionally add a variety with advantage, but it should be done with caution. Let the chairman for each State be empowered to appoint the remainder of his committee of seven, and be charged with the duty of preparing, conjointly with them, lists of varieties adapted to the soil and climate of their State. When, as in some States, there exist well-defined, natural divisions, possessing some peculiarity of soil or climate, special lists should be prepared for such locality, and in case any variety now upon the general list is found unsuited to a particular locality, it should be reported as being so.

These lists, being placed in the possession of the general chairman, should be presented by him at each meeting for the consideration of the Society, and no important objection being made, be promulgated under its recommendation. The general chairman should also issue circulars (as has sometimes been done) to each State chairman, designating certain points upon which information may be desirable, and directing the attention of his committee particularly to those points. In this manner we should, I think, improve upon the present voluminous system of State reports, which, however valuable, are too liable to become in some particulars repetitions of each other.

The committees on native and foreign fruits and synonyms, should all be required to report at each meeting, in accordance with the by-laws. It appears to me too, that in a society numbering more than 160 members, many of whom are pomologists of experience, there must be a sufficient number, who are qualified to serve on those committees with credit to themselves and the Society, to obviate the necessity of appointing *one* member upon the *whole three*, and *three* others upon *two* each, as is at present the case.

With respect to our lists of "rejected fruits," and those which "promise well," I have no alteration to suggest in our present course. Let additions be made to them in the usual manner. The former list, I for one should be glad to see increased, and the latter would be prevented from attaining an undue magnitude, by the draft made from it by the recommendation of the State committees.

The few varieties which are recommended "for particular locations," would doubtless soon be incorporated in one or another State list, and that rather unsatisfactory division be allowed to disappear from the catalogue.

I think that the compilation of a catalogue embracing every variety under cultivation in the country, as suggested by Mr. Walker, is an important measure, and should be at once commenced; but would of course require a long time to bring it to any approximate degree of perfection. It should contain not only the correct standard name of each sort, but an accurate list of its synonyms, and would naturally become the standard of nomenclature on this side of the Atlantic. The demand for it from non-members would doubtless amply repay all expenses attending its publication.

I offer these suggestions in the hope of advancing the cause of pomological progress, and in order that they may be fully and freely discussed, *ad interim*. If I have the good fortune to be present at the next session, I intend to bring the subject more formally before the Society; should I not, I trust that some more worthy member will carry out my intentions.

Respectfully, JNO. B. EATON.

THE WINTER OF 1858–9, ON EVERGREENS.

BY H. W. SARGENT, WODENETHE, FISHKILL LANDING, NEW YORK.

THE public have been so recently informed (at least that portion of them who may have seen the new edition of "Downing's Landscape Gardening") respecting the comparative hardihood of evergreens, that but little remains to add to the tabular view in the supplement to that book.

The further experience of two months since this work was published,—two months, which generally are the most trying upon half-hardy plants,—has enabled me to add one or two facts which may be interesting to the planters of new conifers.

While the general list of the newer things has gone through the winter with its usual average success, there are some varieties heretofore untried, which have more than realized the best anticipations.

Both Cupressus Lawsoniana and Thuja gigantea, have at least, this their first winter, done wonderfully well, as with a slight cedar protection they have both preserved their color and character most charmingly, looking quite as green, and feeling as soft and pliable, as the same plants wintered in a greenhouse.

Although the experience of one or two more seasons is required to pronounce unqualifiedly about their entire hardihood, yet, when it is remembered that these trees passed through a temperature of $\frac{0}{16}$ upon this place for two days, sufficient to do a great deal of damage to well established and comparatively hardy plants, and even to destroy peach buds, during which excessive cold and ever since they have never faltered or changed color, I feel we have reason to be sanguine as to their complete success.

Thuiopsis Borealis—without any protection, came through equally well; and as this is the third winter it has been out, with me, I consider this tree a fixed fact.

Abies Whitmanniana—or A. Obovata, out for its first winter, is equally successful and hardy.

Cephalotaxus Adpressa—also out for the first time, is entirely hardy, while its older relatives—*Cephalotaxus Fortuni*, male and female,—have proved themselves beyond question most reliable; especially the male plant.

Abies Douglasii—established plants, entirely exposed and perfectly untouched.

Cryptomeria Japonica—of different sizes and ages, and in different positions. Some protected by cedar branches; others entirely exposed, but standing on the north side of a wood, have had equal good luck, and are equally green and perfect.

Cunninghamia Sinensis—in a wood and slightly protected, is not in the least browned.

Cupressus Funebris—with every advantage of shade and protection, is destroyed, and I shall make no further attempt with it, having tried many unsuccessful experiments for several years. (In Phila. uninjured.—Ed.)

Pinus Palustris has stood, perfectly well protected; but the specimen tried was a small plant, and was a good deal under the snow, so that I am not willing to pronounce upon it until after further experience.

Podocarpus Andina, Magnolia Galissoniere, (evergreen), and the *Portugal Laurel*, have all lost or will lose their foliage, but the wood and buds seem sound and good.

If, however, we can be assured of the success of that most exquisite of trees, Cupressus Lawsoniana, and also of the new Thuja gigantea, it is quite sufficient for one winter.

Washingtonia gigantea has stood perfectly well in a wood, but browned on the open lawn. In connection with this tree, I wish to remark, that *Meehan's Gardeners' Monthly* finds fault with my placing it by itself as a separate genus, instead of adopting, I suppose, the English name *Wellingtonia*, which I have given as its synonym. But how is it possible to describe a plant otherwise than by the name recognized as national by all the amateurs and nurserymen in the country.

Nobody knows this tree as *Wellingtonia*, or calls it by this name. My impression is that there has always been a discussion between the English and American discoverers, as to who found it first; at any rate, there has been sufficient question about it to justify the pertinacity with which American botanists persist in calling it Washingtonia; and as the tree, whether Washingtonia or Wellingtonia, is a distinct and separate genus, I do not know how my classification can be avoided until we consent to call it Wellingtonia; which, I presume. will never be.

The Gardeners' Monthly likewise finds fault with my classing Mr. Nuttall's Thuja gigantea as Libocedrus decurrens, and Craigiana, contending that Nuttall's Thu. gigantea is really figured by him in Michaux as Thuja Menziesii, and partly Thu. Plicata; now in the Traité General des Conifères, by Carriere, published in 1855, and in Gordon's Pinetum, published in 1858, both the most comprehensive, accurate, and latest authorities on Conifers, I find but *one real Thuja gigantea*, which is Nuttall's, and synonymous with Libocedrus decurrens, and L. Craigiana,—that is to say, the Arbor Vitæ, called by Mr. Nuttall gigantic, is the same tree called by Dr. Torrey Libocedrus decurrens, by Jeffrey Thuja Craigiana, by Lawson Thuja glauca, by Rafinesque Abies microphylla. While the *Thuja Menziesii*, which the Gardeners' Monthly maintains is the true Thuja gigantea of Nuttall, is synonymous with Thuja Plicata of Lambert, Thuja Lobbii of the Hort., as well as Thuja Lobbiana, and lastly, a *Thuja gigantea* of Hooker,—but both these authors distinctly remark, NOT of Nuttall. Now I cannot believe two such high authorities (the authorities both in England and France) could be so egregiously in error as to represent Mr. Nuttall's Gigantic Arbor Vitæ as the only and true gigantea, when he represents it himself as the same as Thuja Menziesii and Plicata, which they distinctly deny.

I am more disposed to believe that subsequent acquaintance and better knowledge of these different varieties have induced these gentlemen to classify them as they have; and although the difference between the two genera of Thuja and Libocedrus may be and is sufficiently distinct when all their characteristics are developed; yet, when the plants are young, the

resemblance between them is so strong (for they are nearly allied) that it is not surprising that Dr. Torrey classed as a Libocedrus what Mr. Nuttall called a Thuja, in the same way as the Funebral cypress was by many arboriculturists classed as a Juniper on its first appearance; beside which, when we recollect the Thuja Menziesii only grows forty to fifty feet high, while the Thuja gigantea grows one hundred and forty feet, it would seem a misnomer to call the first Gigantic instead of the latter, which is more than three times its size.

CINERARIAS.

BY DANIEL BARKER, WEST MERIDEN, CONN.

List of new Cinerarias raised and flowered in America, many of them surpassing any hitherto imported from Europe: they are selected from upwards of 500 seedlings, and form not only a most beautiful, but a distinct and unique collection; they are all of excellent form and substance, some of the individual flowers measuring from one to one and a half inch in diameter. This entire collection is now, March 12th, in most luxuriant health and flower. One specimen measured this day, gave the following dimensions: circumference, nine feet—from the pot to summit of flowers; 21 inches across the foliage; one leaf 10½ inches.

No. 1. A very bright rosy purple, with a pure white ring round a very dark disc; a great improvement on Magnum Bonum; fine form and excellent habit; one of the most beautiful varieties ever raised.

No. 2. A soft rich violet plum, with a small white circle round a dark disc; fine form and habit; dwarf and very compact.

No. 3. Lavender blue; very large flower petals, wide and of good substance; habit, dwarf and compact.

No. 4. Purple crimson, of fine form and excellent habit; very dwarf. Extra.

No. 5. Deep blue, of fine form, and habit of plant unsurpassed.

No. 6. White ground, with a violet purple disc; slightly and delicately tipped with soft lavender blue; habit of plant extra fine; a delicate and beautiful variety.

No. 7. White, with a fine rosy crimson edging; habit and form of flower extra fine and effective; a great improvement on Optima.

No. 8. White ground, beautifully tipped with a delicate violet blue; habit dwarf, and fine; one of the finest of its class.

No. 9. A most attractive and beautiful variety; a bright amaranth, with a small ring of pure white round a dark disc; habit of plant dwarf, and a very profuse flowerer.

No. 10. White, with a deep ring of light blue; fine form and extra fine habit; a very fine variety.

No. 11. White, beautifully tipped with a delicate violet blue; habit very dwarf and compact.

No. 12. Pure white ground, distinctly tipped with bright rosy amaranth; fine form and excellent habit.

No. 13. Pure white, heavily and evenly tipped with lavender; a fine flower of great substance; a noble variety.

SYRINGE AND SUCTION PIPE.

As a companion piece to the watering-pot in the last number, we copy an English invention on the plan of a syringe and suction pipe, with a convenient spout to use in the greenhouse, by which the water is discharged

without splashing, in a continuous stream. Various descriptions of spouts may be employed for the upper or under parts of leaves. It can be used as a watering-pot.

GRAPE CULTURE.

BY WILLIAM CHORLTON.

Mr. Editor :—In your February number, Mr. Eaton, of Buffalo, has an article on "Facts in Grape Culture," in which occurs the following paragraph:

"My practice is, to ventilate freely throughout the season (except, of course, when the outside temperature is too low); and in this respect I differ from some of my neighbors, who implicitly follow Chorlton's directions (which doubtless answer perfectly well for his latitude), and keep their grapes upon a short allowance of air until late in the season. The consequence is, that their vines grow late, fail to mature their wood perfectly, and are in no condition to withstand the intense cold to which they are occasionally subjected. Indeed, in some houses the vines have been killed to the ground. My vines ripen their wood early, and are apparently not injured

by the cold in the slightest degree, although my vinery is not one of the warmest, being far from air-tight."

Now, without any disrespect towards the above-named gentleman, I would like to know how he arrives at such a conclusion as the believing that I ever advocated "a short allowance of air until late in the season." If he will examine my routine of practice more closely, it is more than probable he will find there is a slight mistake in his present understanding of the subject, for no person admits air more freely than myself; but I do most positively protest against introducing every meteorological state of the atmosphere in the form of an under-current, and for reasons the knowledge of which has been gained by practical experience, without the necessity of any scientific observance, which will, however, bear me out. Mr. Eaton admits an exception in his own mode, "when the outside temperature is too low," which, it may be presumed, very often occurs at the beginning of the season. He may differ from some of his neighbors for aught I know, but I am somewhat sure that some of them are not far below his excellence, who have implicitly followed "Chorlton's directions;" for those directions are founded upon the requirements of the constitutional habits of the Exotic grape vine, and are moreover established general principles, suited, with very slight modification, to any part of the country. There is plenty of testimony in existence at the present time, if wanted, to prove such assertion; and examples, to show that what he gives us to understand is the right method was certainly wrong, and which have been a grand success when those "directions" were forced upon the operator, and carried out; yes, where canes of last summer averaging from one inch and a half to one inch and three quarters in diameter have been perfectly ripened,—not simply brown in the bark, but thoroughly indurated. If Mr. Eaton had stated details instead of assertion, we might have gained some knowledge; as it is, we are not apprised what are the peculiarities of his position as to shelter, whether or not he used any covering for the last three winters, what is the relative vigor of his vines compared with his neighbors, and if theirs are or are not in a healthy state as to roots, &c.: all these explanations would be of much importance at the present time, and would tend to give the uninitiated some useful information.

Before closing this notice, allow me to state a physiological fact. All plants have, as it were, two stages of vital action during the revolution of the four seasons, viz. *Development*, and *Concentration*. The first is simply an expansion of the previous year's fulfilment of the latter; while the present in its turn does the quota of duty for the future. It matters not whether the subject be indigenous to the hottest tropical valley, or the loftiest mountain of cooler latitudes, the circumstances are comparatively the same, and exist in a more or less varied degree of intensity according to the peculiarities of organized structure. When these two stages of periodical growth are permitted to progress unmolested by any injurious interference until the turn point for another commencement, it is obvious to reason that nature's intentions are accomplished; and so long as the circumstances are maintained, the same result will follow to the end of matured lifetime, and so on, from generation to generation. To insure this desideratum, I have advised, and am continually advising, to beware of bottom drafts and under-currents of cold air, in graperies and plant-houses, and also recommending shelter around orchards and vegetable plots, in order

to avoid these destructive companions of our daily toil. The geographical formation of our northern continent renders us liable to all kinds of sudden differences in the atmosphere: no sooner is a current started in one direction, than we are expecting it to change to the opposite point,—hot, dry, moist, cold, and all in the condition of surface drafts, unless intercepted by lofty trees, or other protection. What is the consequence? a frequent stagnation of the circulating fluids, and tendency to those circumstances by which fungoid vegetation can luxuriate. Hence our mildew on the gooseberry, grape, pear, pea, and hosts of other plants, familiar to all observers, the accompanying checks against the healthy progress of many plants, and our common expression, *Blight.*

Nature generally disposes her organized beings in suitable regions according to structure, but man often desires, in his peregrinations, to have his old associates; also the luxuries which other climes afford, and all these centered in one spot; and, as it is impossible for him to alter what the Great Designer has formed, he has no alternative but to coincide with what is, and adapt his action to nature's demands, or expect to be defeated in his wishes. In our particular case the *vitis vinifera* is so constituted as to require a long, steady, and warm temperature to produce maturity, and all Mr. Eaton or any other cultivator may say to the contrary, it will have it. Let us have all the details of practice,—how, and by what temperature, what is the growth of the vines, size and quality of fruit, and all other explanations, by which he obtained his well-ripened wood, and made the vines more than usually hardy, without reference to any man's advice or method; and we shall, perhaps, receive a useful hint, and another evidence of what is required to arrive at the best success.

BUDDING AND GRAFTING.

THE modes of multiplying improved varieties of fruits so as to retain the same qualities as exist in the parent tree, are various. Those most usually resorted to are increasing by eyes or buds from cuttings, layering, budding, or grafting. Unless we possess this power, so that we can apply it readily and with certainty, our means of procuring improved fruit will be very much circumscribed.

The usual method of increasing plants provided by nature, is by seeds. Seeds increase species without error. The peculiarities of varieties can rarely be perpetuated in the same manner. Hence the necessity, to secure the increase of a variety with all its qualities unaltered, that a portion from the original tree or plant should be taken, and converted into a new plant. In the structure of plants there is a wonderful provision made for the preservation of their specific qualities, and also for the increase and extension of their varieties. In animals this is not practicable, except in the case of a few of the lower orders of animals. The system of plants is otherwise; a plant is really an animated body, composed of infinite multitudes of systems of life, having the principles of vitality and reproduction diffused over every part, all indeed, united in a whole, but each having an independent existence.

When, therefore, any number of these systems of life are removed, those that remain, as well as those which are separated, will, under favorable circumstances, continue to perform their natural functions as if no union had ever existed. These systems of life are buds, each having the power of sending forth descending fibres in the form of roots, and also ascending in the form of the stem. They are the most important part of the plant; and it is only by them and the various forms which they assume, that the increase or propagation of plants is effected.

The bud is the embryo tree. As secondary buds develop, their descending roots combine and form the woody vessels of the stem, which descend in successive layers to the extremities of the roots and thus promote their extension. Roots are the elongation of the stock. Experiments with the willow have shown that a part of the top at different periods may be covered in the soil, while at the same time a portion of the roots are exposed, and that in a short time the whole tree may thus be reversed, the top becoming roots and the roots top. The stems ascending give rise to new buds, thus producing a succession of independent systems of life combined together as a whole. These buds are all exactly alike, have the same constitution, the same organic structure, and the individuals they are capable of producing are consequently identically the same, allowance being made for any accidental injuries or alterations.

The growth of the stem of the tree is nourished by the ascending sap through the roots of the bud; and as buds and leaves multiply and increase, their constant office is, to draw the sap to the extremities of the tree, and in this manner supplying the necessary food for the new-growing wood, while at the same time the buds are shooting down between the bark and wood of the stock, in search of additional food for the supply of this new growth. It will be seen from this, that the limb produced by the graft or bud, is in itself a distinction incorporated with another, and deriving therefrom its sustenance. It is upon the existence of this remarkable peculiarity of plants that propagation entirely depends. Take a cutting of a vine consisting only of the space which lies between two buds, and no art will succeed in making it become a new plant. The only exception to this rule is those plants which possess the power of emitting latent buds.

On the other hand, take a bud without any portion of the wood adhering to it, and it will throw out root and stem, and become a new and distinct plant. The ordinary way of propagating trees is by budding and grafting.

The end attained by these methods of propagation is, to multiply and increase varieties of fruit trees endowed with particular qualities, and which cannot with certainty be transferred to their offspring by seed, and which would be multiplied too slowly or ineffectually by any other mode of propagation; and also of rendering such trees as are somewhat tender, more hardy.

Budding and grafting are operations equally dependent for their success upon the property that buds possess of shooting roots downwards and stems upwards, and the theory of these processes is based on the power of union between the young tissue of the growing wood. When the parts are carefully placed in contact, the ascending sap of the stock passes into and sustains life in the scion. The roots of trees quite unlike will sustain the life of each other. An apple grafted into the root of the willow will sustain life until roots shoot from the scion. The pear and apple, the peach

and plum, are like examples of this. The buds, whether single or in scions, excited by the supply of sap from the stock, and the warmth of the season, begin to elaborate and send down roots or woody matter between the bark and wood of the stock, which contact unites the graft or bud firmly with the stock, and the stem commences making its upward growth. The success of this operation depends upon the necessity that an adhesion should take place between the scion or bud and the stock, so that when the descending fibres of the bud shall have fixed themselves upon the wood of the stock, they may not be liable to subsequent separation.

This is facilitated by the fact, that in the vegetable kingdom there is a strong tendency to cohesion in bodies or parts that are placed in contact with each other. We often see this exemplified in the growth of trees, and fruits becoming united or double when in close connection with each other.

Budding and grafting is therefore, like layers, cuttings, and suckers, the dividing of the original tree into parts. Even when the operation is the most successful, no intimate union takes place between the bud and the stock. They grow firmly together, but do not incorporate. You may insert several buds of different varieties of fruits upon a stock, one above the other, and each will produce its distinct variety, while the stock will remain unchanged, and produce its original fruit, both above and below the inserted scion. Or insert portions of bark of different trees, and the wood underneath will be that of the tree from which the portion of bark is taken, while above and below the original wood will remain the same.

The range of grafting and budding is confined within certain limits. It is only those trees that are allied to each other, upon which these operation can be successfully performed; and it is only when there is a close relationship and similarity of structure between the scion and the stock, that a favorable result may with any certainty be looked for. As a general rule, the seed, cone, nut, and mast-bearing wood, should be worked upon each other. That the stock in some cases and to some extent affects the graft, and that the graft also affects the stock, is undoubtedly true. In this way we may, I think, account in some measure for the difference in the quality of some varieties of fruits upon different trees, and also why some trees of the same variety are more tender than others.

It however remains true, as a general proposition, that the fruit produced from the scion will be the same as that from the parent tree. The scion or bud is possessed with the power of drawing or forming from the stock that peculiar kind of nourishment which is adapted to its nature, and the specific character of the ingrafted plant remains unchanged, although its qualities may be partially affected, a risk which is always incurred when propagation is attempted from seed. The ancients boasted of vines and apples grafted on poplars and elms, and one speaks of a tree which he had seen "grafted and laden with all manner of fruits. One bough bearing nuts, another berries; here hung grapes, there figs; in one part you might see pears, in another pomegranates; and to conclude, there is no kind of apples or other fruit, but there it was to be found." He adds, "But this tree did not live long."

"And in our own day the Italian gardeners pretend to sell jasmines and honeysuckles on oranges and pomegranates." This is said to be ingeniously managed for a short-lived effect, by introducing the stems of these smaller plants through holes bored up the centre of the stock, their roots

being in the same soil, and their stems after a little growth fill up these holes, appearing as if really grafted.

But repeated experiments by the most skilful cultivators of modern times have clearly proved that, although it may be possible in a thousand trials to succeed in effecting some of these ill-assorted unions, yet the graft invariably dies after a few months' growth.

Among the practical advantages of grafting and budding are, the preservation and dissemination of choice varieties of fruits; without the knowledge of this art, with the termination of the life of the original tree many of our best fruits would cease to exist—with it, we have the power of increasing them to almost an unlimited extent. J.

PEARS AND OTHER MATTERS AT THE SOUTH.

Mr. Editor:—The past winter has been, with the exception of two or three short spells of cold, a remarkably mild one. I have had roses in bloom until about two or three weeks since, and peach trees have been blooming all the winter; but the general blossoming for fruit is now at its height. Even pear-trees are showing some straggling flowers, which, though rather early, will, I hope, escape frost, as I have never had any killed.

I sowed last April some Purple Kohl Rabbi seed, received from the Patent Office, which succeeded well, and when nicely cooked proved very nearly, if not quite, equal to cauliflower.

The winter proved very favorable to cauliflowers, and I had an abundance of them; and the spring has been equally so to Brocoli, or very late cauliflowers, I rather think, as I now have fine heads. The Purple Cape Brocoli runs into all sorts of monstrosities, but has never headed for me; and the cabbage lice are so fond of it and the Brussells sprouts, that I have to give up both. There seems to be something in my soil or situation peculiarly favorable to the Aphis, for they follow my crops of all the cabbage and turnip tribe, all over my plantation, sometimes a mile from my garden. Is there no remedy for them? I have failed to find one as yet.

I do not think that the pear crop promises as much as it did last spring, probably for the very good reason that I had my trees overloaded despite of severe thinning, and this summer I suppose they feel disposed to rest a little from their labor. I can grow neither apples nor peaches here. By-the-by, do you know that I have never either seen or heard of the yellows any where about here? I have an abundance of peaches on another plantation where the land is sandy. Pears do remarkably well with me here, although my land is low, damp, clayey, and salt, being hardly more than two or three feet above spring tides, which come almost up to my garden fence.

After all that has been written against dwarf pears, I feel bound to speak a word in their favor. I have been growing pears since 1837, and started with about equal quantities of standards (or on pear roots) and dwarfs (or on quince), and now have about as many left of the dwarfs as of the standards,—indeed, I think rather more. I have not found, therefore, the standard trees less liable to blight or other diseases than the dwarfs.

Both grow on the same land, and were originally alternately one and the other, both ways. The disease that has killed almost all my trees has been the death of the roots, sometimes even before the tree had borne one fruit; at others after the first good crop,—the top appearing quite sound and good. I have had comparatively few cases of fire blight; and against this, trees branching from the ground were no better protected than those trimmed high. Among the varieties that I have grown, those that grow most vigorously upon quince are, first, Rousselet de Rheims, Buffam, or Golden Beurre, of Bilboa, (I rather think the former), the winter Bonchretien, and Doyenne Roux, or Gray Doyenne. Others may grow as well, but either I have not had them, or not had them long enough to prove. The Rousselet de Rheims is an abundant bearer; fruit of full medium quality, and in gathering from 20th June to 20th July, and in eating from say 1st July to 5th or 10th August, a season when good pears are not very abundant.

The Bartlett does quite as well with me upon the quince as upon the pear,—in fact my original tree is upon quince. Bearing early and abundantly, of course it does not grow very fast. My pear-trees are set in my vegetable garden, and vegetables are grown all around them without any injury to the trees. I prefer small or dwarf trees, simply because I can prune them myself, and without ladder or hatchet; and then, I can gather most of the fruit myself, and keep them separate, to taste. In spite of the millions of pear trees that are annually set, I do not believe that good pears ever will become either abundant or cheap. The trees require no excessive care, but still they require some constantly, and then it depends upon the gathering and keeping whether the fruit shall prove delicious or worthless. One cannot say to a common laborer with you, nor to a negro with us, "go and gather such and such pears," lest they should be threshed down with poles, or knocked about and bruised, and thus rendered useless for anything but cooking. The hardest work I do during the summer, is gathering pears and peaches. Some late ripening pears are wanted among us at the South. I will give you the times of gathering of a few reputed "late:" Epine Dumas, Sept. 3; Colmar de Silly, Zephyrine Gregoire, Lewis, Lawrence, Vicompte De Spoelberch, Sept. 18; Josephine de Malines, and last, Easter Beurre, Oct. 6. The winter Bonchretien and St. Germain, sometimes keep, a few, until about Christmas, but last year neither bore good fruit. The Royal (Rousselet?) d'Hiver was gathered in November, and kept until near Christmas, but it is only a pear, and would not be touched at any time earlier. The Bezy de Bretagne has proved a most abundant bearer; fruit russeted, and of medium or small size; excellent for cooking, and the latest are crisp, juicy, and sweet. It is very superior in every respect to the Martin Sec, and much later.

When you have read thus far, I suppose you will say that it is well that there is an end to everything, and more especially to this treatise, "*de omnebus rebus et quibusdam aliis.*" So, adieu. [*Au contraire.*—Ed.]

Yours respectfully, Robert Chisolm.

Beaufort, S. C. February.

LARGE TREES.

BY S. B. BUCKLEY.

The American Plane tree or Sycamore, (Platanus occidentalis), called also Button-wood in some sections, is a well-known tree, being found in nearly all the States east of the Mississippi river. It prefers the alluvial banks of streams, and attains its greatest size near the Ohio river and its tributaries. There is a "big sycamore" forty miles below Cincinnati, three miles east of "Rising Sun," in Indiana, on the farm of Israel Loring. It is near the main road,—along which the telegraph wires are stretched,—on the banks of a small stream, not far from a large gate and tenant house belonging to Mr. Loring, whose tenant told me that the tree was seventy-five feet in circumference. I asked him to hold one end of the tape line to measure it. We found its dimensions to be somewhat less than he supposed, and he then told me that a gentleman had ascertained its circumference by stepping around it. It is thirty-nine feet nine inches in circumference, at four feet from the ground; at three feet from its base, forty-one feet in circumference; and at the ground, fifty-five feet three inches in circumference. It is hollow, and a section of its trunk would be an oblong ellipse, whose greatest diameter is about twenty feet. At about eight feet from the ground it divides into two large branches, which have numerous spreading, healthy limbs. There is but a small opening of a few inches in diameter into the hollow trunk, which should not be made larger, but the tree should be protected and suffered to live yet many summers and winters. Its age will always be a subject of mere conjecture, still it is not improbable but that it may be the oldest thing east of the Mississippi. A true history of the principal events which have taken place in the valley of Ohio during its life, would be exceedingly interesting to many, especially to those who are trying to solve the still mysterious origin of the Western Mounds.

There are two plane trees about a mile above Louisville, Kentucky, on the bank of the Ohio river. One is twenty-seven feet in circumference, and the other twenty-eight in circumference. They are mere shells or hollow trunks, united at the base and dividing at about three feet from the ground. Their tops have been blown off at ten or fifteen feet high, and their huge, limbs lie scattered around (June, 1858). A few green, small branches were struggling to preserve alive the standing stumps of these huge horns, whose hollow trunks but a short time before would have afforded a comfortable dwelling for a small family. At the same locality are other plane trees. One is twenty-one feet six inches in circumference; another twenty-one feet in circumference, and two of nineteen feet in circumference. A large portion of the sycamores at the West have an unhealthy appearance. They abound in dead branches, having probably had the same disease which a few years ago killed many of the plane trees in the vicinity of Philadelphia. The diseases of trees and the ordinary age of each species are as yet but little understood, but that some die young, while other specimens of the same species attain a great age, is well known.

Michaux calls the sycamore the largest tree east of the Mississippi river. We saw one on the north bank of the Ohio river, thirty-six miles from Marietta, which was forty-seven feet in circumference at four feet from the

ground ; another measured by him on the banks of the same river, between Cincinnati and the rapids, at Louisville, was fourteen feet in diameter.

It must be remembered that all, or nearly all, the large sycamores are hollow, and they are rarely more than sixty or seventy feet high ; hence, we have other trees which probably contain more solid feet. Its wood is brittle, and of no use in the arts. It has been planted for ornament, but now is rarely cultivated. There is another more showy species west of the Rocky Mountains.

FUCHIAS.—One of the most important considerations, and which must receive particular attention, is the proper preparation of the compost in which to grow the plants ; for, if the radical condition of a plant be at fault, no future treatment, however consistent, will produce the desired result. Soil that has been at least twelve months in the compost ground, frequently turned over during frost, and, if turfy, broken into lumps as small as walnuts, is the material best suited for all plants. To have the finest specimens in flower in May, cuttings are taken at the end of July, or beginning of August, from growing shoots, which have no flowers or flower buds on them : the points are best. These are inserted in rather light sandy material, in thumb-pots, clean and well drained, and the pots plunged, near the glass, in a frame, with a gentle bottom heat. They are shaded, and occasionally sprinkled, in the afternoon, in hot weather. When rooted, the plants are removed to a cooler situation, but are kept growing, and repotted as they need it, until they are in six-inch pots, in which they are wintered. The soil used is equal parts of rough loam, peat, well decomposed leaf mould, and about one-sixth silver sand. A moderate supply of water, during the dull months, and the usual temperature of the greenhouse, is all that they require. The side shoots are duly stopped as they proceed in growth. They receive their final shift into thirteen-inch pots, about the first week in February, using the above compost, with the addition of some rough charcoal, and are exposed to a temperature of from sixty to seventy degrees by day, and fifty by night, with shade in clear weather. They are frequently syringed with soft water, and after the plants have begun to grow rapidly, manure water is applied twice a week. Stopping is not practised later than the second week in March. The pots are plunged in tan, with a gentle bottom heat. One central support is all that is needed. Greenfly is kept down by fumigation. The plants are removed into a cold house as they are coming into bloom. Fuchias should never be drawn by heat ; they then grow too long jointed.

EDITORS TABLE.

To Contributors and Exchanges, &c., &c.

Communications, Letters, Catalogues, Periodicals, &c., &c., intended for the perusal of the Editor, should be uniformly directed to the HORTICULTURIST, *Germantown*, (*Philadelphia,*) *Pa.* Packages by Express, &c., should be directed to the Editor, as above, by name; they will thus reach him almost beyond a doubt.

SARGENT'S EDITION OF DOWNING.—It is not every one who holds a pen for the public, that could have written so gracefully the following notice of Mr. Sargent's new edition of "Downing's Landscape Gardening;" it could have come in fact from no one but N. P. Willis. The *Home Journal* says truly: "The lamented Downing, in leaving to his wife the bequest of fame which is so precious to her—the volume which is the exponent of his genius and labors—left a prophetic foreshadowing of American taste, of which the fulfilments, as they progressively develop, are from time to time to be added, like the lights and shades of a picture left unfinished. To retain its practical and popular value, at least, as a hand-book of rural culture, the successive editions of his 'Landscape Gardening' should be seen to do what they would have done if he had lived—keep pace with the advancements for which he so admirably prepared the way. It will be understood at once, that the worker at such a task, the executor of such a trust of posthumous fame, must be not only a kindred spirit, but one who is skilful in the knowledge of which the book treats, and disinterested in his friendship for those whose inheritance it is.

"A copy of a most beautiful new edition of 'Downing's Landscape Gardening,' is before us, with this duty of love performed to it—a 'supplement' of near one hundred and fifty pages, added by its editor, Henry Winthrop Sargent. . . . .

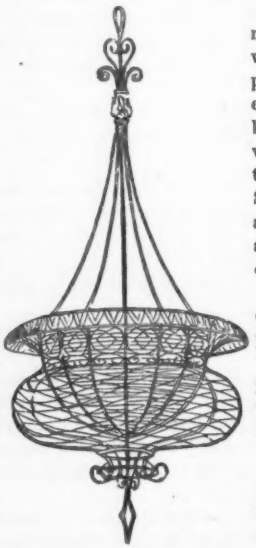
"Mr. Sargent, as many of our readers probably know, has devoted an ample fortune and a life of educated leisure to an amateur pursuit of the art which, with Mr. Downing, was professional. The lack of the most frequent compellent to genius, necessity, has alone prevented a person of his preëminent taste and ability from taking the lead in that, or some other of the arts, before this. At his magnificent residence of Wodenethe, however, (opposite the Highlands, on the Hudson,) he has created a paradise around him, by a most successful appliance of his gifts and means to the perfecting of a fine country estate, and to the experiments of horticulture and arboriculture—taking one branch of the latter art as his more particular study, viz.: the culture of evergreens. A highly finished steel engraving gives the reader of the present volume an idea of the beauty of the mansion and lawn of Wodenethe, and several wood cuts present views of the landscape-gardening effects, and of the rare trees in the nurture of which he has been successful. Intimate with Mr. Downing, while living, and possessing this habitual sympathy of pursuit, Mr. Sargent was better qualified than any other friend to undertake the careful editing of a new edition; and this he most promptly and generously undertook, and has most admirably accomplished. It is a voluntary enriching of the widow's bequest, for which, aside from the especial merit of his work, he will possess an honored place in the calendar of memorable friendships."

OBSERVATORY OF ART AND SCIENCE.—The Bostonians, with their vigor and foresight, are projecting a grand institution to be called the Observatory of Art and Science, on a piece of land belonging to the commonwealth of Massachusetts, now useless, but capable of being made ornamental, healthful and useful, where exhibitions and museums may be located to teach and to improve the public taste. Success to the effort.

ROSES.—*The George Peabody rose*, Mr. Buist says in his new catalogue, promises to be a leading feature amongst Bourbon roses; it originated with Mr. Pentland, of Baltimore. A beautiful bloom of this rose ornaments our "table" as we close.

"To grow roses in perfection," says Mr. B., "they must have a rich, generous soil, with a dry sub-soil, and in nature friable in all weathers; a very liberal supply of decomposed manure when they are most dormant, well forked in amongst their roots, and when in a growing state, frequent (once a week) waterings with weak manure water: rich waterings, however, may be dispensed with if the ground is deep and enriched every season."

"Hybrid perpetual roses," Mr. B. continues, "are the *par excellence* of the whole tribe. If we were to be confined to any group, we would prefer this for its luxuriant green foliage, strong growth, all shades of color from white to purple crimson, rich and grateful odor, and great hardihood; they can be kept by culture as dwarfs, pillars, or standards; they can be pruned to within a foot of the ground, or thinned out and made into pillars; they are adapted to cover walls or fences, trellis work or arbors. Where is there a blush rose to compare with *Caroline de Sansal*, or a pink like *Auguste Mie*, and dark crimsons like *Lord Raglan* or *Prince Leon*, light crimsons like *Jules Margottin* and *Madam Fremion*, and such scarlets as *General Jacqueminot* and *Giant of the Battle?* Indeed, there is no other section of the rose so rich and constant in beauty: they are for the million, and can be grown in all climates and in all soils where there is sufficient stimulant to promote great growth.



MOSS ROSES.—The Moss roses are all of a very hardy nature, and bear a degree of cold equal to 20° below zero, without protection. They do not, however, bear so severe pruning in this climate as they do in Europe. We have oftener than once had a part of our own stock divested of all their blooming shoots in our absence, merely because "that's the way we do in Europe." Keep the shoots thin, and allow all the plants, if possible, to reach three feet above the ground. Some of them make fine pillars, such as *Adelaide*, *Wm. Lobb*, and *Alice Leroy*. Not a few of them, however, are miserably poor in regard to their mossy character, and even size, color, and shape of flower.

We do earnestly impress upon purchasers that a small plant established in a pot is much better for transporting than a plant from the ground, whatever may be its size.

Some of our readers will remember that it is about twenty years since we, when on the subject of the rose, predicted a perpetual blooming moss. We now cheerfully offer Salet, or Alfred de Dalmas, as the subjects.—*Buist's Catalogue.*

A HANGING BASKET, suitable for the drawing-room or piazza, is represented by the accompanying cut. It is made of wire, and any one accustomed to work in that material may imitate the example here given.

MR. EDITOR:—Will you say to some of our eastern book-makers, to give the *lists* of fruits adapted to this region a place in their volumes?

We are struggling hard to bring the subject of pomology into proper consideration before the people of the north-west, and some signs of life and activity are beginning to manifest themselves. Yours, PUBS. "HERALD" AND "FRUIT CULTURIST."

Wisconsin.

We are pleased with this indication of attention to a subject that deserves more care than it has yet received. Each section of country must have its local information; it is time lost to endeavor to enforce lists of fruits as adapted to all parts of our great varieties of climate, and aspect, and soil. From the labors of local societies, and individual exertions, must come our results. Heretofore a few positions in this country have given the law of the land. We do not blame the authors of this so much as we regret that they alone should have taken the lead in the way of their own interest. Now that the information we have collected is diffused abroad, and intelligent cultivators are taking up the topic everywhere, light will be more diffused, and dependance upon single climates will be ignored. In this direction we are pleased to notice new efforts; among these is the "South-Western Culturist," mentioned in our list of "catalogues received," by N. C. Goldsmith, of Lancaster, Wisconsin, who goes into the subject of fruits for that important region with a zeal and knowledge that must produce good. In the Grant County *Herald*, Lancaster, Wisconsin, we also notice that attention is drawn to the subject, and we wish all success to every similar movement.

In the same paper, we find the following in a communication on the subject of pruning:

"I have delayed sending this a few days, hoping to get time to offer a few thoughts upon the deleterious effect of trimming apple-trees to get the top up higher than a horse's back, so as to plough under them. Many a tree gets its death wound by trimming off large limbs, and at the wrong season of the year. There is nothing to be gained by such a course. It retards their growth; they do not bear as soon; violent winds are more apt to turn them out by the roots or break them down; fruit is more apt to be blown off before ripe, and if it should remain on until ripe, not so convenient gathering it. But the greatest objection to the plan of trimming up so high is, it renders them more liable to be killed by hard winters. And for a handsome tree, give me one with a trunk two feet long.

I have a few long-shanked trees left in my orchard yet, that I planted out before I knew any better; but they are dying every year, and when they are gone I shall replace them with low ones, and never be guilty of setting such again. B. F. YOUNG.

The South-Western *Culturist* says of dwarfs: "We unhesitatingly advise all to avoid dwarf trees, unless they wish to experiment with something that may never yield fruit enough to pay for planting. Within a few years past, millions of the various dwarfed trees have been raised and sold; and yet it is doubtful whether any person into whose hands this little volume may fall, knows of a single instance in which any considerable number of them, taken together, ever paid cost.

"It now begins to be admitted that they make sickly, short-lived trees, and poor bearers. These remarks apply especially to dwarfed pears."

NO MORE MOWING FOR LAWNS!—From several sources, including our London correspondent, we have received accounts of a perfect substitute for grass lawns in gardens, &c., which requires no mowing. Think of your lawn always green, and the growth removed by the gentlest motion of a wing or brush! Why, it is exactly what we all want; the ladies may now *fan away* what the laborious mower took so much trouble to destroy! It may be as well, however, only to anticipate that it is adapted to small lawns.

The best account of this new plant we find in the *London Horticultural Cabinet*, communicated by E. G. Henderson & Son, Nurserymen, St. John's Wood, and as it is important if true, here it is entire: "Spergula Pilifera, the plant in question, in its style of growth is a neat, dwarf hardy perennial tufted alpine plant, forming close compact wiry grass-like stems, from a quarter to half an inch in height, at first erect, afterwards decumbent, clothed with closely-set

green bristle-like leaves, which, by permanent growth and occasional rolling, form an unbroken, level, velvet-like surface of the richest conceivable verdure, remaining uninjured in severe drought or intense cold, and assuming the same beautiful verdurous tint during the winter months as in summer. The seedling plant of this highly interesting object, starts into growth with a single unbranched perpendicular radicle or root, and afterwards manifests a remarkable power of extension in its ramifying hair-like roots, penetrating to the depth of one to two feet; a fact quite sufficient to account for its enduring the opposite extremes of severe heat and cold. In addition to its hardiness, under the vicissitudes of an English climate, its value is considerably enhanced in its adaptation to all the varieties of common garden soil, requiring but a thin firm surface stratum of one inch ordinary sifted or broken loam. Maintaining its verdant freshness alike beneath storm and sunshine, it combines every needful feature of adaptation with economy, and a uniform aspect of neatness with the least possible care or attention. Its fertility in bloom during the month of July is equally beautiful, being at that period studded over with myriads of low compact salver-shaped snow-white blossoms, appearing not as in fancy, but in reality, the living picture of an emerald-green velvet carpet, spangled with innumerable silver stars. From the preceding remarks, it will be seen that the established growth of this plant maintains a dwarf close web of green verdure, and entirely dispenses with the extra toil and expense of mowing; its numerous small brittle flower-scapes being removed by the gentlest movement of a wing or brush over the surface of the lawn, either whilst in bloom or afterwards, and these constitute the only surface-growth, or tokens of its beauty, which require this operation but once a year. For small or medium-sized lawns, terraces, verges, mounds, etc., this remarkably interesting and beautiful little plant offers an object of great interest to every lover of gardening pursuits, and every lady amateur cultivator may superintend and personally manage the slight attentions required to preserve the terrace margins or velvet lawn in the highest condition. The permanent and uniform condition of dense growth, with the penetrative power of its roots, preserves it from all risks of being parched by extreme exposure in sultry weather, and the progressive accumulation of its moss-like growth gives an elastic pressure to the foot, much softer than the finest Turkey carpet. The seed may be sown either in or out of pots, in the usual method observed for fine seeds, with a slight but uniform covering of soil, and placed within either a frame, cool pit, or greenhouse, using the usual precaution of shading the seed-pans from intense sunlight daily for a few hours, until well germinated, after which it may either be replanted in stores of ten to fifty plants within dishes or large pots, or otherwise planted out in rather a shady border of the open ground for a few weeks, and ultimately transplanted upon the prepared lawn-surface in two or three plants, within one inch or more of each other, and such little plant-groups may be formed at a distance of six, nine, or twelve inches apart; in such positions the growths will progressively meet and form the rich and beautiful surface now described. It is also admirably adapted for picturesque green tufts and edgings on avenue lines and borders, for grouping the front spaces of massive rock work, and surfacing partially raised mounds around classic fountains and basins, or artistic columns, where grass is unavailable for mowing; and equally telling for cultivation in larger vases, in alternate effect with the silvery sheen of the beautiful *Cerastium tomentosum*, on terrace verges and architectural approaches.

A practical proof of the success of *Spergula pilifera* for the objects above stated, may be seen in the gardens of A. Mongredien, Esq., at Forest Hill, Sydenham, Kent; where a rich and verdant plot or lawn has been established four years by Mr. Summers, the intelligent gardener there, and is now in fine condition. In the same gardens, a considerable space is allotted for further illustration of its perfect adaptation, which may be seen on application."

THE PEAR DISCUSSION.—We have several communications still on this subject; from Mr. L. F. Allen replying to Mr. Eaton, Mr. Coppock to Mr. Allen, and so forth. We have endeavored to be impartial during the debate; every one has had his say, and we must reserve our

space for other topics; the good that is to result from the "controversy" cannot be increased by angry discussion. Facts are now all that we want, and the coming season will perhaps let us into some secrets on the subject. The topic has been misunderstood throughout by many, and some who have entered upon it have likewise mistaken the end in view. It was not, whether pears on the dwarf could be cultivated, but whether they could be produced on quince stock *to a profit*. That question has been, in the opinion of many, put to rest; amateurs will continue the practice, which is more than a hundred years old, but orchardists are now cautious how they invest their means in an experiment so far unsuccessful, as a general thing.

PRUNING.—Single specimens of shrubs on a lawn are frequently allowed to grow tall and unsightly, to the extent of requiring supporting stakes, detracting much from their beauty of form and foliage during summer. As they flower most profusely on the young shoots of the previous year's growth, pruning in winter of course deprives us of the flowers. The time to prune is immediately after the bloom fades in early summer. Spirea prunifolia for instance, may be formed into a compact plant by attention to cutting out and shortening back misplaced branches. The Golden Bell, (Forsythia), which is now so beautiful, is naturally a spreading plant, having a tendency to send out strong shoots from the base; all plants of this habit should be frequently looked at during growth, and the points of such strong growths pinched off, when about a foot or so in length; by this means they can be formed into fine, massive plants. Deutgia Scabra is much improved in beauty of both foliage and flowers, by thinning out most of the old wood, leaving the young growths more space to develop. Weigelea Rosea, Spirea Reevsii, the box-leaved Privet, Mist Bush, &c., are vastly improved by a yearly pruning. The beauty of these plants depends upon their form; the lower branches should spread and meet the grass, so as to hide the stems, and present an appearance of a rounded tuft of vigorous foliage.

In shrubbery borders, where a variety of forms and general massiveness of growth is desired, this care is not so necessary, although a judicious pruning will increase the size and beauty of foliage, and keep the plants in healthful growth.

HEDGES.—It will readily be acknowledged by those who have seen a prairie, that a fence is a matter of the first importance. Commercial parties have been long enforcing the value of the Osage Orange for this purpose, both on the level prairie where wood is scarce, and for farms everywhere. Success has attended some efforts to this end, but in general the care and attention they require at the busiest season of the farmer, and other causes, have not been universally encouraging, nor do we find on examination that this plant has fully answered the expectations regarding it; indeed, we prognosticated its failure, except in careful hands, long since. It still has its advocates, however, and we would not discourage its cultivation wherever labor and attention can be brought to insure its success.

A new movement has been made in the West for the introduction of a "Live Productive Diamond Hedge," from the French Osier Willow, *Salix purpurea*, of which favorable notices have reached us from several quarters. It is easily propagated, makes longer and larger growths each year than any other hedge plant; the growth is worth six to ten cents a pound for basket willow, making the fence an annual producer which will pay for itself in two years; it is inexpensive, occupies one quarter the amount of land, and does not spread by ploughing the roots; it is beautiful, and useful for the honey-bee, and possesses other recommendations. The sets are placed so as to grow into a diamond shape; tied together, they interlace by growing solidly into a strong fence. Cattle will not browse on them by reason of their bitterness, &c. Thus you may make a profitable fence instead of a costly one. The subject is of great importance, and was first introduced to our notice at the seed store of Emory & Co., in Chicago, where Woodruff & Co.'s pamphlet may be had gratis, and where we observed specimens of the hedge itself at their commercial warehouse.

THE MICROSCOPE.—A valuable work called the "Microscopist's Companion; a Popular Manual of Practical Microscopy," by John A. King, M.D., is in the press at Cincinnati. From

a specimen sheet and engravings we augur favorably for the work. Microscopes of excellent quality are manufactured in this country at a cheaper rate than those of Europe, rendering us in another branch of the arts independent of foreigners; and as the instrument is of increasing importance and popularity, the demand will for a long time equal the supply. The microscope in skilful hands has done much for knowledge in vegetable physiology; it is yet to do much more.

DISCURSIVE POULTRY PAPER.—Did any of our readers ever notice the beautiful, active little dogs, carried or led by strange looking men, half grooms, half keepers, in the Quadrant. Smart, clean, active little animals. When put on the ground, to show to the old lady who has stopped her carriage to look at them, they jump and frisk about. None of our readers ever visited a rat-pit in the "Dials," where a dog not much larger than the rats themselves, kills them against time. If they had, they would see condition the result of moderate and judicious feeding. Now, the old lady we have just mentioned bought one of these beautiful little dogs, which soon after might be seen on the front seat of the same carriage, a fat, sleepy, wheezy, ungainly mass of flesh. Poor little thing! it has been "taken care of," and has been "kindly treated!"

"Lucky for it," says the old lady; "it is always ill, and it would have died if that man had kept it. He starved it! Look! Miss Jenkins, it will not eat a piece of the white meat of the chicken, without butter. Its appetite is so bad; and when it came I was afraid to feed it; it used to jump so at the food, I thought it would bite me. It has a nice little bed, and, in the winter, nice thick blankets; but it is very poorly, and takes no notice of anything."

The truth is, pets of all kinds (we are afraid we may sometimes class children with them) are "killed with kindness."

A London family takes a house in the country. Most people prefer that which they have not, and as, in London, there were no fowls to feed and look after, that was one of the anticipated pleasures. Some must be bought, and there is a large farmer in the neighborhood greatly renowned for his poultry. Our friends are hardly settled,—half the things are not unpacked,—when a morning is devoted to a walk or ride, to ask him to be good enough to let them have a set. "What a beautiful sight the yard presented! What plumage! What ruddy combs and gills! But could they not see them nearer?"—"Oh, yes."

The appearance of a basket, and a few grains scattered about, brought them all up, and then the questions,—"How often do you feed?" "When do they roost?" "What makes them so hungry?"

The pen was purchased. "Ah!" said the young ladies, as they rode home; "the fowls have made a good exchange. We will take more care of them than that."

Well, the fowls came home, and were put into the house where they are to roost, with plenty of food. There was plenty—enough for a week. They are let out in the morning, and will not eat the barley. It is supposed they do not like it. "Try something else: give them some bread." They pick only a few crumbs. "Well, leave it on the ground, and they will feed when hungry." Day after day goes on, and the anticipated pleasure is not realized. The fowls are dull, careless of food, are fed twice as well as they ever were, and only get worse.

A friend suggests that a trough shall be provided where they can feed when they like. It is done, and it stands in the yard full of barley. The birds go to it sometimes, take a mouthful or two, and then rush to the water, where they drink greedily.

The birds are evidently going back, and it is necessary to call a council, and hold a consultation as to what shall be done with the tiresome fowls. The only member of the establishment who is an authority, is an odd man—half gardener, half servant, who lived with the former owner of the house. He is consulted:—

"Did his former master keep fowls?"—"Yes." "What breed?"—"Don't know, he was not particular." "Were they ever ill?"—"Never." "Did he take much care of them?"—

"No, none." "Did he feed them much?"—No." "Did they lay then?—"Oh, yes! well." "Did he know any one who understood fowls?"—"Yes, Mr. Taplin."

Mr. Taplin is one of a very useful class. An active, well-informed country gentleman, of small fortune. He possesses a knowledge of gardening; he is a good judge of a horse or a dog; and an authority on pigs, poultry, and cows. He has good taste in laying out a garden. He has good taste in another way—he does not intrude all these subjects when in the society of ladies, but waits till his opinion is asked. He is an indispensable man to a London family settling in the country, and just now is talking to the head of the family in the kitchen garden. His advice is asked. There is a quiet, humorous smile, or curl, about his mouth, while he draws from his young querist the history of all she has done for her new pets; and when she winds up by saying, "It is so provoking, that the birds looked so well when they were neglected, and now fell off when they were well attended to," he heartily, but not rudely laughed. Seeing some little dismay and chagrin on the young lady's countenance, he apologized for doing so, and saying her father was coming over to see his kitchen garden, he invited her to see his poultry.

Everything was correct about his place. Most beautiful Dorkings were running in the yard. Cochins were in a pen looking into a small orchard. Sebright Bantams were in another. All were in startling condition. The young lady sighed as she mentally compared these birds with her own. These were so bright, so healthy, and so hungry. Had they been her own, she would have been delighted to see them all rush after a few grains that were thrown down. Having found it was feeding-time, she waited to see in what way it would be done. Mr. Taplin was provided with a small tub of slacked meal. "Was that all he was going to give to thirty fowls?"—"Yes; and they would not have all of it." He took a small piece in his hand, and threw it down, not at his feet, but a long way from him. Such a running and scrambling for the morsels as the little lump broke and scattered about. When all was eaten, then another lot was thrown down. There was the same struggle for it. But after a few more, the anxiety had ceased, and they pecked leisurely. No more was given. "Surely," said the young lady, "that is not enough."—"Plenty," was the answer. "If they want more they must find it."

True enough: they were now seen dividing into little parties, and seeking—some the shrubbery, others the orchard; but all seemed satisfied. "But the poor birds in the pens, surely they had more?"—"No; only as much as they will run after."—"Yet how well they looked."—"And where do these beautiful birds roost?"—"Come and see."

In a corner of the yard is an old woodhouse. It is boarded, and the boards are cracked and open in places. It is very lofty, and well thatched. The floor of this house is covered with bright red gravel: the under layer is also gravel, well trodden and rammed down. The surface is scrupulously clean. The perches are only two feet from the ground, and are movable, for convenience of cleaning out. It does not look smart enough for our young friend: she looks at it contemptuously, and peers about for something she cannot find.—"What is it?"—"Where is their food?"—"What food?"—"For them before they are let out."—"They have none."—*London Poultry Chronicle.*

CATALOGUES, &C., RECEIVED.—Butler & McCulloch's Spring Catalogue of Choice Flower, Shrub, and Tree Seeds, Covent Garden Market, London.

R. Buist's Catalogue of Select Roses; Rosedale Nurseries, and 922 Market St., Philadelphia. An admirable manual, embracing all the varieties, modes of culture, &c., &c.

Catalogue of Fruit and Ornamental Trees, Shrubs, Evergreens, &c., at the Willow Creek Nursery, Lee Co., Illinois; C. E. Bacon, proprietor.

Catalogue of Small Fruits. Jeremiah Knox, Box 478, Pittsburg, Penn. Very full.

Catalogue des Plantes, Exotiques cultiveés dans les serres, de J. Linden, a Bruxelles.

A Treatise on the History and Utility of Live Fencing. By C. R. Overman, of Bloomington, Ill. Third edition; and in favor of the Osage Orange.

List of Plants for sale by John W. Adams, Portland, Maine. Ditto Fruit and Ornamental Trees, New Grapes, Roses, &c. Good, and reasonable prices.

E. Woodruff & Co.'s, Live Productive Diamond Hedge, from the French Osier Willow, (*Salix purpurea*). Contains a very valuable suggestion for willow fences.

Descriptive List of Apples cultivated by Overman & Mann, near Bloomington, Ill.

What May be Learned from a Tree, by Harlan Coultas, No. 2. A very ingenious treatise now in the course of publication, in numbers, at 25 cents each, by the author, Philadelphia.

South-Western Wisconsin Fruit Culturist, containing directions for the culture of fruits adapted to Wisconsin, by N. C. Goldsmith. Also catalogue of trees and shrubs cultivated at the Lancaster nursery. A movement in the right direction.

Wholesale Catalogue of Lake Erie Nursery, East Rockport, Ohio, Lewis Nicholson, proprietor.

Bridgeman's Descriptive Catalogue, No. 6. Select Bedding Plants, Roses, Summer and Autumn Blooming Bulbs and Herbaceous Plants, 1859. Andrew Bridgeman, 878 Broadway, N. Y. No one can visit this establishment without being struck by its adaptability to a luxurious city and fashionable neighborhood, where everything is ready at a moment's notice.

Views of the Vine-Growing Resources of St. Louis and Adjacent Counties of Missouri. By Charles H. Haven, of Melrose, St. Louis Co., St. Louis. There is in St. Louis a wine association which is ready to give high prices for any amount of grapes that may be offered, and minor associations for planting vines are forming, we doubt not to advantage. The pamphlet is an excellent one.

Stratham Nurseries; 100,000 valuable Fruit and Ornamental Trees. Andrew Wiggin, Stratham, N. H. With greenhouse plants in great variety.

Catalogue of Trees, &c., &c., for sale by Ed. Bonsall, Jr., near Salem, Columbiana co., Ohio.

Meehan's Germantown Nurseries, No. 1; Ornamental Trees, Shrubs, and Vines. A good and various stock.

Meteorological Journal, No. 20, Muscadine, Iowa, for 1858, by T. S. Parvin, Smithsonian Observer. Material *pour servir*.

Seventh Annual Review of the Trade and Commerce of the city of Chicago. Chicago, 1859.

Select Descriptive Catalogue of the Kentucky Nurseries, Maysville, Kentucky, George G. Curtis & Co. This is an excellent catalogue of an extensive variety of the best stock; we have but one objection to make to it; the printer has misspelled in a variety of instances; Larva is called larvy, Dielytra is Dilitra, &c.

Trade List of Fruit and Ornamental Trees, 1859, for sale by George D. Kimber, Flushing, L. I.

Catalogue of John C. Teas, Maysville, Indiana; Fruit Trees, Shrubs, and Evergreens.

ANSWERS TO CORRESPONDENTS.

T. T. A.—There is a Passion flower the root of which is hardy, in the Middle, and perhaps in the Northern States. Planted in a southern aspect, we have flowers from it every season. Procure it by all means.

DANIEL BARKER.—Your efforts to produce American varieties of greenhouse and bedding plants are not unnoticed or unappreciated. You will have accomplished much if you render us independent in this respect, and beyond a doubt your productions will be better adapted to our climate than those originated abroad. Your Cinerarias have never been exceeded, and we trust encouragement will reward your laudable efforts.

B. LOSSEE, COBURG, C. W.—Yes: we have a very kindly feeling for Canada, and rejoice in her horticultural success. Send us a figure and description of the St. Lawrence Apple. Seed of the American Holly can be procured of most seedsmen. The Tulip-tree does not

bear very young. The cultivation or raising of shellbark hickory we have published in the journal and in "Michaux's Sylva." The tree should be cultivated both for beauty and fruit.

H. S. BOLTON.—We must refer you to the hand-book on cranberry culture, published in New York.

SELINA.—The connoisseur of roses must not expect too much the first and second year of planting, because until the roots have firm hold of the ground, the plant will not have strength to continue its growth and bloom uninterruptedly. When, however, they fairly root into the soil,—and that agrees with them,—they will rarely be without flowers until the frost cuts them off. Glad you have got so good a selection of standards, which with us are highly satisfactory with ordinary care.

JAS. P. MERRIAM.—There is no Muscat Catawba. The advertisement was a swindle, and we trust not successful.

There is a new grape, the Muscat Hamburgh, of which we shall have something to say soon.

Olive. In the winter. See our former notice.

MEMBER OF THE WORKINGMAN'S INSTITUTION OF NEW HARMONY, INDIANA.—All the plants named should be employed as bushes or shrubs. See a notice in another column in regard to trimming all such.

Gossip.

HARDINESS OF PETUNIAS.—It may not be uninteresting to know, that under proper treatment many plants may be made to endure more cold than most people imagine. I have several things illustrative of this, but that which I consider the most striking is a "Shrubland rose" Petunia, of which I send examples. This has stood two summers and last winter against the wall of my dwelling-house, and seems in a fair way to stand this winter. It has never received the slightest protection of any kind, except the wall against which it is nailed.—*F. J., Faringdon, Berks, Jan.* 5.

FLOWER-POT DRAINAGE.—I beg to suggest the use of perforated of earthenware cylinders instead of potsherds, stones, &c., for this purpose. These, if merely covered with a thin layer of moss, fibrous-rooted peat, or charcoal, would, doubtless, answer admirably.—*A. B. C.*

RENDERING BARREN FRUIT TREES FERTILE.—It fell to my lot some ten years ago to take charge of some barren old pear-trees, with long spurs full of cankers. Although I took a different course from the one you have lately been advocating to render them fertile, I have the satisfaction of observing that all the old stocks are well filled with bearing wood. The horizontal branches were all cut off, and a graft or two put on the stumps or short arms, except in some places where buds were inserted and allowed to replace the branch; those put on in the shape of buds make less wood than the others, but are very productive. The trees first grafted have nearly covered the walls: they bore fruit freely on the second year's growth, and the year after the produce became greater. I allude to this to show that it would have been a mistake, where there is a great consumption of winter fruit, to have torn up the old trees and planted young ones. In the latter case I should have had to wait long and patiently for the first fruit bud, (unless root-pruning had been resorted to), while now I have plenty of growth and abundance of fruit. I think grafted trees will continue longer in bearing

than if buds had been inserted in branches. I may mention another fact not a little interesting. Last spring a Barbarossa vine produced bunches somewhat irregularly, leaving more space without fruit than I liked to see. I took a shoot from its neighbor, a Hamburgh, with a bunch just coming into flower, inarched it, and put a small bottle of water to the end of it. This was done merely as an experiment, but to my astonishment every flower became a berry. The bunch progressed, and was to every one here a curiosity: it colored well, and became a compact little bunch in September.—*Thorp Perrow, in Gardeners' Chronicle.*

PLINY has recorded the story of an industrious and ingenious husbandman, who, being in advance of the knowledge of his time, cultivated a small piece of ground upon an improved method, by which he gathered much more fruits and reaped larger profits than the neighbors about him, though their possessions were more ample. His uncommon success excited their envy, insomuch that they brought this accusation against him: "That, by sorcery, charms and witchcraft, he had transported his neighbors' fruits, fertility and increase to his own fields." For this he was ordered peremptorily, by Albinus, a Roman general skilled in agriculture, to answer the charge before him. Cresinus, fearing the issue, resolved upon his best defence,—brought his plow and other rural implements, and displaying them openly, he set there also his daughter, a lusty, strong lass, big of bone; then, turning to the citizens: "My masters," quoth he, "these are the sorceries, charms, and all the enchantments that I use. I might also allege my own travel and labors, my early rising and late sitting up, and the painful sweat that I daily endure; but I am not able to present these to your view, nor to bring them with me into this assembly." This bold and open defence captivated the people; it proved the *coup de main* which turned a doubtful result to his entire favor; he was pronounced "not guilty," and those present took note of his inventions. This story is derived from those who are said to have first taught to the Britons the arts of husbandry. It may, therefore, be fairly employed to show that the first improvers of agriculture had their days of trial; that in all ages and countries, and in every path of inquiry and invention—in the discovery of the rotation of crops, as in that of the rotatory motion of the earth—a Galileo has had to answer for his daring before some embodiment of ignorance constituting an Inquisition.

IT has been lately discussed with some interest, whether the Romans possessed forcing contrivances, a subject about which there is some difference of opinion. That they did employ some kind of artificial aid is sufficiently proved by some well-known expressions in Martial, the most remarkable of which (lib. viii. ep. 68) tells how the Vine remains in felicity, enclosed in the transparent *gemma*, where no rigors of frost can touch its berries; and seen like the female figure through her muslin drapery, or the pebble beneath the limpid stream. That some kind of transparent material was used by the Roman gardeners, under the name of *specularia*, is therefore certain, whatever the material may have been. Seneca calls it *testa*, which is translated shell; but which may have been, a tile of talc, the *lapis specularis* of Pliny, which he tells us the Romans obtained abundantly from Spain. These specularia would seem to have been a kind of handglass, possibly tall transparent movable frames, such as may be seen in some of the Botanic Gardens on the Continent. The curious account given by Columella of Roman Cucumber growing, is hardly intelligible upon any other supposition. "He who wishes," he says, "to have the fruit of the Cucumber before its season, should, after the winter is over, introduce well-manured soil into baskets and slightly water it. Then, when the seeds have come up, on warm and sunny days he should place them in the open air near his house, so as to shelter them from all cold blasts. But in cold and windy weather he should bring them under cover, and continue this position until the vernal equinox. He should let the baskets altogether into the ground, and he will thus obtain a precocious fruit. Wheels also may, if it be thought worth while, be placed under the larger vessels, in order that they may be drawn backwards and forwards with less labor. But in any case they must be covered with *specularia*, that even in calm but cold days they may be safely brought out into the sun. It

was in this way that Tiberius Cæsar got Cucumbers almost all the year round." The learned Dr. Daubeny concludes, from an examination of all the evidence obtainable, that Roman forcing did not go beyond the production of early Cucumbers and perhaps Melons, and a supply of winter Roses.

EDUCATION FOR RUSTICS.—Gervase Markham, who lived at the commencement of the 17th century, himself a practical husbandman, wrote a work with the object of enlarging the knowledge of the agriculturists of his time, and of "recording the most true and infallible experience of the best husbandmen in the land." He entertained the opinion that to teach farmers reading and writing was a superfluous endeavor. He thought that, "as touching the master of the family himself, learning could be no burthen," but "if we speake as touching some especiall servants in husbandrie, as the bayliffe, the under farmer, or any other ordinary accountant, it is not much materiall whether they be acquainted therewith or no, for there is more trust in an honest score chaulkt on a trencher, than in a cunning written scrowle. And there is more benefit in simple and single numeration in chaulke, than in double multiplication, though in never so faire an hand written!" There are some people even in the present day, it is to be feared, who have faith in the sufficiency of chalk; but what will they say of the following mode of ascertaining the probable state of the corn-market, which belongs to the same order of intelligence, and was put forth by Markham as a well-founded piece of instruction: "If you would know whether corne shall be cheape or deere, take twelve principal graynes of Wheate out of the strengthe of the eare, upon the 1st day of Januarie, and when the harth of your chimney is most hot, sweepe it clene; then make a stranger lay one of those graynes on the harth, then mark it well, and if it leape a little, corne shall be reasonably cheape, but if it leape much, then corne shall be exceeding cheape, but if it lie still and move not, then the price of corne shall stand, and continue still for that moneth; and thus you shall use your twelve graynes the first day of every moneth one after another, that is to say, every moneth one graine, and you shall know the rising and falling of corne in every moneth, all the yeare following."—*Philip's Progress of Agriculture.*

Miscellanea.

TEA CULTURE.—A few days ago I drank a cup of real American tea from the Chinese tea plant, of which Dr. J. P. Barratt, near New Market, South Carolina, has a fine shrub about four feet high, which has borne fruit during several years. By its side was a thrifty specimen of the Olea fragrans, or Chinese Olive, with which the tea is scented. The doctor thinks that the tea plant should be renewed about every three years, and if thus cultivated, that it would thrive and be profitable. I was recently at Greenville, in this State, where Junius Smith, some years ago, essayed its culture. I was told that his experiment was by no means a true test. His soil was barren, and he took no pains to improve it. The plants did not receive proper nourishment, and not being used to such treatment they pined and died. The fine shrub which I saw at Dr. B.'s, shows plainly that the tea plant will thrive in this State. S. B. BUCKLEY.

Newbury, South Carolina,—in the Country Gentleman.

WISCONSIN CRANBERRY TRADE.—There are extensive cranberry-fields in Wisconsin, which yield the berries for the picking. Juneau county is famous for its cranberry crop, and the quantity sold the past season in the town of New Lisbon alone, is 28,000 bushels, at the average price of $1 75 per bushel. The trade brought some $55,000 to the town, and not less than 5,000 persons were engaged in harvesting and preparing the berries for market. The Juneau *Argus* says the cranberry crop was a far greater benefit than the most abundant wheat harvest could have been.—*Cincinnatus.*

NERINE FOTHERGILLI.—Of this beautiful tribe of plants much has been said, and the great beauty of the far-famed Guernsey Lily is a recognized fact, but it has sunk into comparative insignificance by *Nerine Fothergilli* and *vanusta*. The vivid vermillion of the one is exquisitely beautiful; whilst the last, when contrasted with the original, is a larger flower and of a much more brilliant rose-color—the flowers have the appearance of being spangled all over with gold dust when the sun shines upon them. The varieties all thrive well in a light sandy loam, and require encouragement and protection during the winter months, with an abundance of air, so as to perfect the development of their foliage.—*A. H., in Turner's Florist.*

"Lancaster, Wisconsin," says the South-Western *Culturist*, "alone, pays annually over a thousand dollars for green, and half as much more for dried apples, and an untold amount for cider and vinegar—to say nothing of other fruits consumed, most of which come from the States named; by which some idea may be obtained of what the villages and towns of this region altogether pay for fruit.

These fruits cost the consumer double or quadruple what they would if raised at home, because the speculator that buys up the article on the field of growth, the transportation companies, perhaps two or three wholesale and a retail dealer, must all realize their profit thereon, before these indispensable luxuries reach the table or palate of the masses in this vicinity. Two dollars per bushel is about the usual figure apples cost the dealer here, including freight during winter and spring. The orchardist in Grant county realizes over $1 00 per bushel for his poorest apples made into cider at the usual selling rates."

STRAWBERRIES.—Mr. Edwards, of Bureau county, grows 100 bushels of strawberries per acre, cultivated as cheaply as an acre of corn. Dr. Pennington, of Rock river, grew in 1855 $6,000 worth of apples in an orchard of ten acres, the trees from eight to fifteen years old.—*Allen's Lena (Ill.) Catalogue.*

QUINCES.—Observation and inquiry lead us to the conclusion that the quince *cannot be successfully cultivated in the West.—South-Western Culturist.*

Correspondence.

Our Chicago Correspondence.

DEAR HORTICULTURIST:—That remarkable individual Mr. Richard Swiveller, in his flippant manner, when he goes to ask after the health of an old gentleman, enquires after the "ancient buffalo!" So it is that we distort matters till truth is scarcely distinguished. Had Mr. Swiveller travelled to Chicago he would have probably described it as the prairie-hen city, or distorted it by some expletive. I shall do no such thing, but shall inform you that a discovery has been made to which I attach some importance. At the North or East,—which is it?—the people are all laboring for pelf enough to retire to the country; but "the country" they so long for, rises in price so rapidly, that before their accumulations reach the maximum of their wishes, country places near by have become too dear. What are they to do, unless they content themselves with only an acre or two? I answer, *Move to the prairies!* It has been found out, notwithstanding the anathemas of travellers who view surfaces only at railroad speed, that a prairie may become a paradise; land is cheap enough yet to allow many acres to be purchased for half the price of a lot 25 by 80 in New York, Boston, or Philadelphia.

West of Chicago you come directly on to prairie land, possessing more, perhaps, than the ordinary disadvantages of such a country, and in March and April it is sad enough to see the small dwelling-houses surrounded by a mixture of black mud and water. The frost once out, however, there ensues a season of great beauty—the earth covered with flowers, roads solid,

and food for man and beast in plenty; a deep soil, in fact, which will repay labor a thousand fold. Endure this mud for a few weeks, and what neighborhood is without it? you have in a western prairie a home that the European who works *hard* for all he eats, might be proud of. But a country seat on the prairies! with *all* the appurtenances of refined life! this is an unexpected discovery made by myself, though doubtless many have seen such while I was hugging home; as it was a surprise, indulge me with the telling of it.

Encouraged to the long journey—more than one-third as far off as Liverpool, I found myself in thirty-eight hours in the Garden City of Chicago. Taking the Galena cars, in an hour I was at Cottage Hill and in the carriage of Thomas B. Bryan, Esq., *en route* for his representative place. Though the station is named a Hill, it required more than one look to ascertain the wherefore; gradually it was revealed that there was a considerable elevation, but it all seemed at first alike to the eye; the house appeared to abut into the level, and it does join the prairie by imperceptible degrees. The cluck of the prairie chickens is distinctly heard morning and evening from the windows and piazzas, and good shooting may be enjoyed from the purlieus of the kitchen garden. We are much influenced by what we have read; the poets have been educating us with the love of the heather, and have made the nightingale and whippoorwill household thoughts; who shall say that when the song about the prairie grass and the prairie birds has been as well and as long sung, we shall not admire and poetise them as much; there is plenty of heather land in Scotland not half so desirable as you will find on the level grounds of the West.

Mr. Bryan, after eminent success in business, and still young, has purchased the site of Cottage Hill, and built an eminently comfortable mansion, near enough to the station for convenience, and yet far enough from it to have none of its annoyances. Not a single tree, to begin with, but in place of that he has an unobscured view for thirty miles towards the setting sun. By removing large trees with frozen balls, and importing a few thousand evergreens, the scene is in course of transformation; shelter is provided, and our friend is rejoicing in the prospect of soon seeing his large domain blossoming like the rose, and its advantages appreciated.

If such things can be—if a man can in an hour or two divest himself of cities, and purchase rich land cheaply, and surround himself with beauty, and have a mail twice a day to communicate with the world—if in two or three hours he may reach ten or twenty dollar land, and purchase his lumber for a trifle—why—pray tell us why, we should toil to the end of a long life, sighing all the while for the country? You ask for views; on the slightest eminence in Illinois your views are literally unobstructed, except by distance. Mr. B. has already in two years' labor planted and adorned a scene of great beauty; and we must confess our repugnance to the prairie is much obliterated, when we enter drawing-rooms worthy of any city, and find refinements such as only the educated can enjoy.

Neighborhood is also at hand. Mr. Healy, the eminent painter, with his numerous and charming family, and others, are within a short walk: when I say our host is never at a loss for a partner for indoor exercise at billiards, I have depicted a home where more particulars would be an intrusion. Thus much, however, was necessary to introduce our representative gentleman; it may serve as a new idea of what the houses in the West are becoming; I rejoice to chronicle so good a beginning, and to learn that Cottage Hill is a promising place.

In another direction, on the lake towards Milwaukie, and also within an hour of railroad travel from the city, is Evanston, on a wooded bluff of great beauty, where quite a town of importance has grown up, with endowed schools (a great feature of this region) and learned professors; among them Dr. T. V. Blaney, of Delaware, who stands very high as a lecturer and chemist. On the same road and but six miles from Chicago, they are now establishing a rural cemetary, (Rose Hill,) on high land, once no doubt the shore of the lake, and with a soil and timber admirably adapted to its purposed occupation. I predict that this cemetery will become one of the greatest boasts of Chicago.

At different points, too, are other improving rural towns; conspicuous among them is Hyde Park, with fine views, trees, and much proposed landscape gardening. Horticulture has made a brave start in Chicago; there are many clever greenhouses and graperies, and a gardeners' society, which meets and holds able discussions. Your readers have already made acquaintance with Jno. C. Ure, gardener to the Hon. Mr. Arnold, through his communications.

The whole city has been newly graded, leaving the blocks of houses below the level of the streets three to four feet. The manner in which these great brick structures, about as heavy as the Astor House, are being "screwed up" into the air is a marvel to foreigners. Nobody seems to notice what is going on; the inmates carry on business, and even a clock and watch store was apparently insensible to the motion. The result, is very dirty streets from the excavations necessary to blocking up.

If Chicago has grown rapidly, and has felt the pressure of the money panic and a bad crop somewhat sensibly, her merchants are in good heart, and disposed to believe the worst is over and prosperity near. To this I say, amen. J. J. S.

Chicago, April, 1859.

The Hop Tree, Ptelia Trifoliata, is the only American species that I have seen noticed by botanists. This species of the hop has long been known and cultivated as an ornamental shade tree, and has been for sale in most of the nurseries for many years; but its utility, and superiority over the common hops, have not until recently been known and acknowledged, and adds very much to its value.

The foliage is in long trifolia, pendant leaves of a beautiful pea-green. Starts late in the season but quite rapidly, and almost immediately follows the beautiful blossoms in clusters—which very much resemble the Privet blossom. They soon change into clusters of seeds or hops, which makes them highly ornamental. The only fault in its growth is a tendency to throw up a long slim body, which robs it of its beauty, unless cut back to make it throw out its limbs nearer the ground. It is not a very fast grower, but produces seed at two or three years growth. I have never known of their growing over twenty or twenty-five feet, and when grown will produce a bushel or more of hops.

How profitably they can be raised for a field crop, I am not able to say; but as they are very much stronger for yeast, brewing, &c., and 640 trees can be planted on an acre, at an average of half a bushel to a tree, 320 bushels, I think it will pay for making a trial.

Samples of the hop, with circular, will be forwarded through the mail by enclosing five letter stamps. F. TROWBRIDGE.

New Haven, Conn.

MR. EDITOR:—In the April number of the *Horticulturist*, page 187, you ask what grape Major Le Conte alludes to in the New Patent Office Report, where he speaks of a white-fruited grape as the best of all varieties, &c. The Major can undoubtedly answer the question. But it occurred to me in reading the passage, that he had reference to a grape which I have cultivated for many years. The description is almost perfect. This grape I found in the garden of the late Jacob Perkins, of this town, nearly twenty years ago, and hence we have named it the "Perkins Grape." He obtained the vine for an Isabella, taking it from a garden where the Isabella and Catawba grew together: but when it fruited, he found it to be light-colored, though resembling the Isabella in shape and size, but full three weeks earlier. The vine is a rapid grower, very hardy and productive. I planted a few cuttings in my garden when I first became acquainted with the vine, and it has answered my highest expectations. As I never had the grape fever, I said but little about it. But when my neighbors saw the vine burdened with the fruit, and especially when they tasted it, they immediately applied for vines. I have, therefore, the few years past, disseminated it freely and widely in this region, and where known, it is more anxiously sought for than any other native grape. "The racemes are large, long, and dense; the berries oval, white or green, with a slight coppery tinge on the

side exposed to the sun." It is sweet and luscious, with a musky flavor. It was supposed by some to be an accidental hybrid between the Isabella and Catawba; but I am convinced it is a Fox grape of the very best sort, and probably sprang from a seed dropped by some bird, that brought it from a distance, as no other wild grape has been found to resemble it in this vicinity.

E. GAY.

Bridgewater, Mass.

[Not likely to be the grape suggested by Major Le Conte, in the Patent Office Report. The seed dropped would not produce *the same* grape. The white Fox grape is rare.—ED.]

WHAT'S IN A NAME.

Shakes-pear.

Beurré de Kuckingheim! Brown Beurré!
'Tis a wonderful jargon, yes sir-ree!
Fits to utter, and cramps to spell,
Dutch, English and French in a Jargonelle!

Doyenné d'Alencon d'Hiver gris!
Van Mons Leon le Clerc! dear me!
Bless the branches and save the root,
If all that "talking" should turn to fruit!

Elect me king, and I'll make a law
Entitled "an act for your lower jaw;"
Syllables two shall name a tree,
And the pear shall perish that carries three.

Proudly then shall our pyramids grow!
Straight and taper and full of blow!
Crack, nor canker, nor blot, nor blight,
Frost to hinder, nor bug to bite.

Plump and juicy shall Duchess swell,
Coral crimson the F. O. relle;
Iced champagne shall our Jerseys bear,
And every Seckle shall be a pear.

Flemish Beauty shall spread apace,
And good St. Michael's grow in Grace;
The very Diel shall his limbs untwist,
And go to heaven like an Urbaniste!

Golden days for the orchard, sure!
Happy times for the amateur!
When every "Title" shall mean a thing,
And pears are plenty, and I am *king!*

T.

Torch Hill, Ga., March 3, 1859.

GREENHOUSES—THEIR TEMPERATURE—SUMMER USE OF.—Before again referring to the summer use of greenhouses, allow me to say a word or two upon the subject of correctly ascertaining the temperature.

In my last article upon this subject (p. 144, No. 3, Vol. 14) I say, I allow "the temperature to rise as high with solar heat as 80°," &c. This has been interpreted to mean,—and by those who should know better,—in the sun's rays. This is a very mistaken idea, and a very common

one. Visitors are frequently surprised, upon an inspection of the thermometer in a southern exposure, at the apparent high temperature. I have noticed that the glass exposed to the sun will register from 10 to 20° higher than the actual temperature of the house. And this latter can only be correctly ascertained by suspending the thermometer in a shady place.

I have seen some of my professional brethren, I regret to say, so unreflecting, to say the least, as to imagine that turning the back of the thermometer to the sun was sufficient; not stopping to think that the black Japan of the case, by attracting the sun's rays, is a fruitful source of error.

A very simple contrivance is the use of a square post, (four to six inch, which may be made ornamental and used for climbers,) situated as near the centre of the house as possible, and about mid-way of which, on either of the four sides, as circumstances may require, the glass may be hung.

The above remarks are equally applicable to the temperature of vineries, etc.

And now, let me forestall an objection which may be raised to the article on the succeeding page of the same number. It will doubtless be urged that the vines will start before room can be made in the greenhouse for them. To this I answer, that no gentleman owning a vinery can do without a hotbed; and in this latter the grape-vines may be started, the steam of which will give them a capital start, swelling the buds and wood, so that when the greenhouse is ready for them, they will be found to be quite advanced.

Before closing, allow me to make a suggestion about the application of manures to root crops. The prevalent custom is to mix with the soil, spading in; but I prefer putting it in the bottom of the trench. The philosophy of this is, that the roots seeking sustenance will grow straight towards the manure, and the result will be large, straight roots; while the reverse is the case when the manure is mixed with the top-spading. In some instances the roots will be large but more often forked. Yours respectfully, JOHN C. URE.

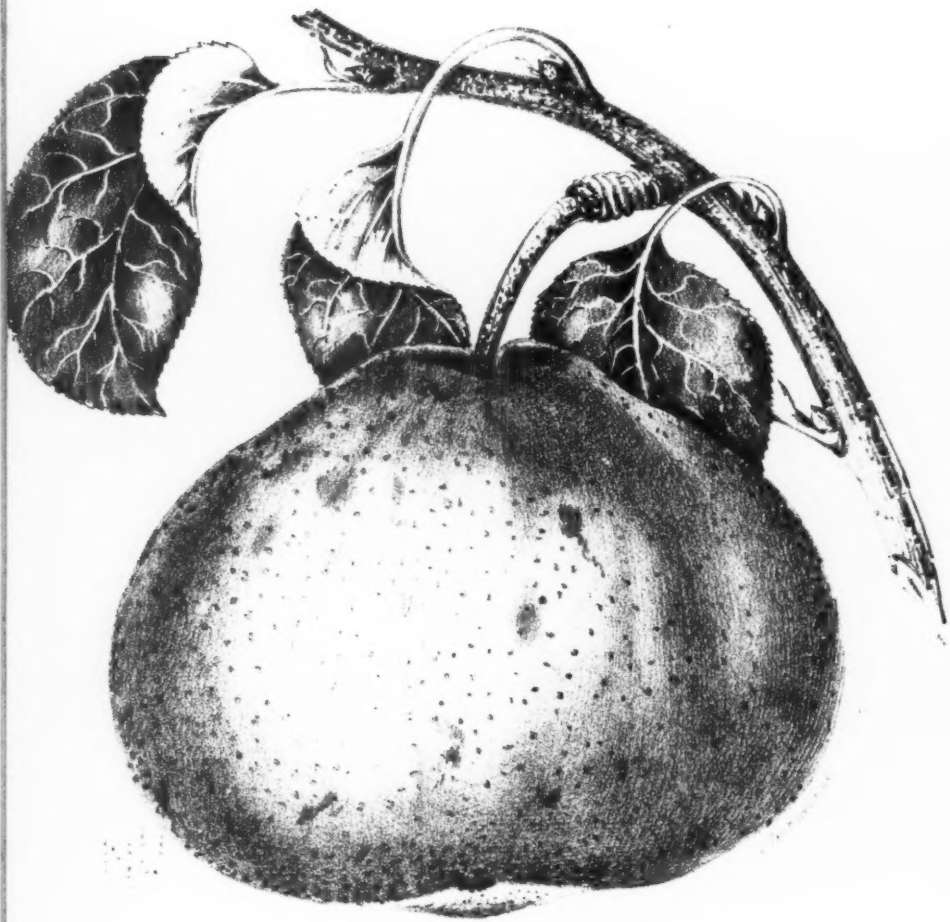
Chicago, April 5, 1859.

HARTFORD CO. (CONN.) HORTICULTURAL SOCIETY.

AT the annual meeting held April 2, 1859, the following officers were elected for the ensuing year:

President—Gurdon W. Russell, M.D. *Vice-Presidents*—J. S. Butler, M.D., Hartford; Edward Bolles, Hartford; H. Mygatt, Farmington; N. W. Stanley, New Britain; Norman Porter, Berlin; S. Lyman, Manchester; E. A. Holcomb, Granby; H. A. Grant, M.D., Enfield; S. D. Case, Canton Centre; S. Moore, Kensington; T. C. Austin, Suffield; H. S. Collins, Collinsville; B. F. Seward, Southington; R. H. Phelps, Windsor; S. M. Chester, Wethersfield; Sherman Steele, West Hartford; Wm. G. Comstock, East Hartford; James T. Pratt, Rocky Hill. *Corresponding Secretary*—D. S. Dewey. *Recording Secretary*—M. C. Weld. *Treasurer*—P. D. Stillman. *Auditor*—S. H. Clark.

GARDENERS' SOCIETY OF CHICAGO.—At an adjourned meeting of this Society it was determined to hold a Floral Fair at the Mechanics' Institute Hall, on Wednesday, the 18th of May; and if practicable, every month. The Committee of Arrangements consists of A. T. Williams, Dr. Bonard, J. C. Ure, Layton, and Bridges.



MORGAN PEAR.

for

THE HORTICULTURIST

For [illegible] 1854